

CURRICULUM
FOR
UNDER-GRADUATE MEDICAL EDUCATION
IN BANGLADESH
2002



APPROVED
BY
BANGLADESH MEDICAL & DENTAL COUNCIL

Compiled & edited
by
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Foreword

With increasing public expectations about their health care services, the quality of medical care itself is under scrutiny all over the world. Therefore a positive change is needed in the role of doctors. The role of teachers and students in teaching learning with positive changes in medical education, its strategy and process also need to be reviewed and developed.

This new curriculum has been developed and scientifically designed, which is responsive to the needs of the learners and of the consumer focussed. The present curriculum with its assessment method is expected to effectively judge competencies acquired. With competencies required to cater the health need of our people. It is gratifying to note that all concerned in the promotion of medical education in the country have involved themselves in the planning and formulation of this need-based curriculum initiated under the auspices of FIMC and the Centre for Medical Education.

Subjects like behavioral science including communication skill, community medicine/primary care medicine have been given the required emphasis in this document. Though curriculum is not the sole determinant of the outcome yet, it is very important as it guides the faculty in preparing their instruction, tells the students where to go, what to do and what knowledge, skills and attitude they are to develop. The ultimate criterion of measuring curriculum in medical education is the quality of health services provided by its graduates with required competencies.

In conclusion, I would like to say that the curriculum planning process should be continuous, dynamic and never-ending. If it is to serve best, the needs of the individual students, educational institutions and the client community to whom we are ultimately accountable, may be assessed.

I congratulate all who were involved in redesigning and developing the curriculum, particularly the Centre for Medical Education. They have done a commendable job deserve much appreciation.

Director General of Health Services
Govt. of the Peoples Republic of Bangladesh

Background and Rationale

Curriculum planning and designing is not a static process, rather a continuous process done regularly through a system. More than one decade have elapsed since the Centre for Medical Education (CME), in 1988, developed a national **Undergraduate Medical Curriculum** which was supposed to be community-oriented and competency based. The curriculum was partially implemented as yet. It was felt necessary that it should be further reviewed and improved to make it more community oriented and competency based.

Support for medical education in the Fourth Health and Population Project (1992-97) was given to Further Improvement of Medical Colleges (FIMC) Project which undertook the responsibility of reviewing and producing curricula documents for the priority disciplines-Community Medicine, Obs & Gynecology and Pediatrics. Later on, with assistance from World Health Organisation (WHO), the CME through Director Medical Education (DME) has taken the responsibility of reviewing curricula for other disciplines.

Initially a number of workshops were held with **curriculum Working Group** of different disciplines from medical colleges and a **draft curriculum** was produced. Subsequently, in order to make a consensus, decision was taken to hold Review Workshops through active participation of different professional group faculty members. Accordingly, first, second and final professional group meetings were held with support from the DME. Later on, in order to give a final shape and recommend it to DME for further action, a **taskforce** group examined the revised undergraduate medical curriculum.

The revised undergraduate medical curriculum is expected to be implemented with the newly admitted students of 2002-2003 session. Performance of these students as graduates will speak about the success of this curriculum as community oriented and needs-based.

I hope this curriculum will continue to serve as guideline for the students and faculty members. It is readily understood that in order to further improve, update and be effective, this curriculum needs constant review and revision.

Lastly, I would like to extend my deep gratitude to all faculty members and others who shared their expertise and insights and worked hard to produce this valuable document.

Director

Medical Education & Health Manpower Development
DGHS, Mohakhali, Dhaka-1212

Preface

The medical science is advancing with the advancement of educational science & technology. Global changes are happening in medical Education in accordance and conformity of these advancements and changes. With the application of these knowledge and skill of medical science, future doctors should satisfy their patients with the changing needs of the community. Much change are happening in teaching methods and teaching sites or learning environment. It is now an established fact that best learning is achieved through utilizing the learning environment in factual situation. A doctor can better learn from his own patient. Slogan of today is now the unity of education and practice. The undergraduate curriculum for future doctor is expected to be so designed that it should focus more on real life situation and of learning i.e. more community oriented as well as more community based. The teaching should be more in a community oriented way. To serve this purpose community campus partnership is very much appropriate and essential.

The undergraduate medical curriculum followed in the medical colleges was developed in 1988 through UNDP and WHO support by the Centre for Medical Education with an aim to produce community oriented doctors who will be able to provide essential primary health care to the community. This was the first documented curriculum ever developed in the country. But evaluation by UNDP (1990) and Godfrey et al (1996) revealed that it is neither community oriented nor competency based and there is room for much improvement. The need to develop a community- oriented and competency-based curriculum was felt by all concerned.

Series of workshops with specialists and experts from every discipline took place to develop a curriculum, which would reflect institutional, departmental objectives as well as subject wise learning objectives. The curriculum should have contents relevant to the health problems of the country and assessment method should be scientific, reliable and valid and also questions should be objectively set and designed. The teaching methods should also be scientific and more biased for effective small group teaching. As a whole the other components of the curriculum such as, course contents, strategy for teaching, materials or media used and the assessment system within the available timeframe were to be identified scientifically to provide the medical graduates with proper knowledge, skills and attitude.

Factors contributing to an effective medical education system are quality of students, quality of teaching staff, and their effective delivery of need based scientific curriculum. Although the best students are admitted in the medical colleges every year yet the medical graduates are not always of the desired quality for providing health services to the community. The answer then should be sought in other factors of which the most important is the curriculum. A curriculum is generally regarded as a programme of instruction for an educational institution and its plan takes the form of a descriptive outline of courses, their arrangement and sequence, the time assigned to them, the contents to be covered in them, the instructional methods to be employed and finally evaluation.

The Centre for Medical Education took the responsibility of developing an agreed, over-all policy for the reorientation of all undergraduate MBBS training program directly oriented to the needs of Bangladesh. Consequently this enormous task of reorientation and remodeling of the medical curricula was assigned to FIMC project and Centre for Medical Education. The curriculum was developed with a scientific approach of Delphi Technique in national workshops. The participants of these workshops were almost all the Professors of the concerned departments/subjects of all the medical colleges and a good number of resource personnel including the President of the Bangladesh Medical & Dental Council and Deans of the Faculty of Medicine of Dhaka/Chittagong/Rajshahi Universities. The other supplementary approach was to make it evidence based through need assessments. The overwhelming response of all categories of teachers to the formulation of this curriculum is indeed praiseworthy. They have worked hard to identify and discard the superfluous elements from the course contents and added new elements to make teaching-learning process more relevant, meaningful & up-to date. Congratulations to them, they have done a commendable job.

The composition of the planners of this curriculum is unique. The authorities responsible for approving, implementing & functioning of this curriculum have worked together and involved themselves in its formulation. It is only natural that they left no stone unturned to get a need based applicable curriculum.

I am grateful to all, who actively participated in this great exercise, specially the faculty and staffs of Centre for medical education who worked very hard and efficiently to develop this curriculum.

Director

Centre for Medical Education
Mohakhali, Dhaka - 1212
Bangladesh

NOTABLE FEATURES:

1. M.B.B.S Course will be of 05 (Five) years duration plus 01(one) year Internship Training.

2. There will be 3 professional Examinations during the M.B.B.S Course.

At the end of 1 & 1/2 years	1st professional.
At the end of 3 & 1/2 years	2nd professional.
At the end of 5 years	Final professional.

3. There will be 2 (Two) professional Examination in one year.

In 1st week of January

In 1st week of July

Subjects with marks allocated for different professional Examination will be as follows.

In 1st Professional

Anatomy-	500 Marks
Physiology-	400 Marks
Biochemistry-	400 Marks
Total-	1300 Marks

In 2nd professional

Pathology(300) + Microbiology(300)	= 600 Marks
C. Medicine	300 Marks
Pharmacology & Therapeutics	300 Marks
F. medicine & toxicology	300 Marks
Total-	1500 Marks

In Final Professional

Medicine-	500 Marks
Surgery-	500 Marks
Obs. & Gynae-	500 Marks
Total-	1500 Marks

* Pass Mark will be 60% in each written, Oral, & Practical/Clinical Exam, Separately.

* Marks and pattern of questions in written Examination in each subject will be as follows—

1. 10 % Marks of written examination of each paper of each subject is allocated for formative assessment.
2. 20 % Marks are allocated for MCQ for each paper. There will be separate Answer script for MCQ examination. Time allocation is 1 (one) minute for each question consisting of 5 stems (20 questions).
3. 70 % Marks are allocated for SAQ (Except in Com. medicine) for each paper

* For oral, clinical & practical the examination system & Marks distribution is shown against each subject (See the Curriculum).

* Oral part of the examination will be structured oral.

• In Medicine - There will be 2 boards Consisting of 4 examiners for oral, clinical & practical examination.

Board —I 1 examiner from Internal Medicine
 1 examiner from paediatrics

Board —II 1 examiner from Internal Medicine
 1 examiner from sub specialities (eg-dermatology/Psychiatry)

There will be No Temp-Chart, slides and specimen in the Practical Examination.

• In Surgery- Oral, Practical & clinical examination will be held in Two separate days.

One Day- General Surgery
Another day- Ophthalmology + ENT

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ANATOMY

Departmental Objective

At the end of the course in Anatomy, the students should be able to:

- ❑ equip themselves with adequate knowledge for understanding the structural components of the body responsible for carrying out normal body functions
- ❑ use the above knowledge to understand and appreciate the other subjects taught in the pre-clinical, para-clinical and clinical courses
- ❑ use the knowledge of Anatomy to understand the basis of common clinical conditions

Carry out basic research on various fields of Anatomy

Learning Objectives and Course Contents in Anatomy

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>General Anatomy</i></p> <p>Student will be able to:</p> <ul style="list-style-type: none"> Define anatomy, explain the subdivisions of anatomy and describe the anatomical planes & terminology Define the bones & cartilages of the whole body & their functions & development. Define & classify joints, the characters, stability & movements of joints and correlate with the clinical conditions Classify muscles, their properties and functional organization Define & classify blood vessels, Describe the systemic, portal & pulmonary circulation. Describe different types of vascular anastomosis with their functional & clinical implications. Describe the general plan of lymphatic drainage of the whole body. Describe the components of the lymphatic system. Describe the different parts of alimentary tract and associated glands with their functions. Describe the different parts and functions of respiratory system. 	<p>CORE :</p> <ul style="list-style-type: none"> Definition, subdivisions of Anatomy and its importance in the study of medicine, implications subdivisions of Anatomy with their anatomical terminology and anatomical planes & positions. Skeletal system- Bones and cartilages their types and characters and situations, functions and development. Joint: component parts, classification, characteristics, stability and movements. Clinical conditions associated with joints Muscular system, classification, characteristics and functions and structure Blood circulatory system: component parts, heart and blood vessels, general, portal and regional circulation. Lymphatic system. Digestive system a general outline of its different parts with their function. Digestive glands and associated organs. Respiratory system a general outline of its different parts and functions. 	Lecture		22 hrs.	

Anatomy

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Describe the different parts and functions of male & female urinary system. Describe the different parts and functions of male & female genital system Describe the component parts of endocrine system and their situation, function and clinical importance. Describe the skin & appendages with their functions Describe in general the components of nervous system Describe the components of special sense organs & their functions Describe the basic facts on origin of life, evolution of life and animal kingdom. 	<ul style="list-style-type: none"> Urinary system in male and in female a general outline. Genital system in male and in female a general outline. Endocrine system- its component parts situation, structure, function and clinical importance. Integumentary system and appendages. Nervous system a general outline of functional mechanism Special sense organs – general outline and functional implication. <p><u>Additional:</u></p> <ul style="list-style-type: none"> Origin of life on earth. Evolution of life on earth. The animal kingdom 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Cell Biology</i></p> <p>Student should be able to:</p> <ul style="list-style-type: none"> Define and describe the human cell & its constituents with their functions. Explain cell cycle. Describe the cell surface specialization & intercellular junctions. <p><i>General Histology</i></p> <ul style="list-style-type: none"> Explain the basic principle of tissue preparation, fixation, embedding, sectioning & staining. Define and classify the basic tissues in the body Describe the components, characters, distribution and the functions of basic tissues in the body. Describe the histological structures of different tissues in the body. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> Human Cell-Basic organization, constituents, nucleus and chromosomes, cell cycle and cell division, cell membrane, organelles and inclusions Cell Surface specialization Junctional complexes Tissue preparation- Basic principles Methods of preparation- Fixation, Embedding, Sectioning & Staining <p>Basic tissues: Definition, Classification, Components, Characters, Distribution and Functions of</p> <ul style="list-style-type: none"> Epithelium Connective tissue Nervous tissue Muscular tissue 	Lecture		16 hrs.	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Describe the features of different types of cells: protein secreting, ion transporting, steroid secreting, mucus secreting, antibody producing cell. Describe characters of cells of different tissues and differentiate among them. Explain cell cycle and cell life span. State the major components, & uses of electron microscope. <p>Systemic Histology</p> <ul style="list-style-type: none"> Describe the histological structures of parts of different body system. 	<p>Additional:</p> <ul style="list-style-type: none"> Functional correlation of different types of cell with their particular-nuclear, cytoplasmic, membrane and surface features. Inter relationship among cell characters of different tissues. Cell cycle, including its relationship with cell function and with cell type and cell life span. Electron microscopy: Major components and uses of an electron microscope Scanning <ul style="list-style-type: none"> Glands Digestive system Respiratory system Vascular system Urinary system Lymphoid organs Endocrine glands Male reproductive system Female reproductive system Nervous system Special sense organs 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>General Developmental Anatomy</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Define terms related to embryology Explain the significance of study of embryology Describe developmental periods Explain proliferation, growth, differentiation, inductors, evocators and organiser Describe different types of cell division Describe chromosomal changes during cell division with anomalies Describe oogenesis and spermatogenesis Describe the process of fertilization, Describe the events of 1st, 2nd & 3rd week of development. Explain the development of foetal membranes Describe the development & derivatives of ectoderm, mesoderm & endoderm. Explain the development of twins & their types. Describe the causes & types of congenital anomalies Explain the process of human evocation 	<p>CORE:</p> <ul style="list-style-type: none"> Introduction: Terms and Definition Developmental periods, Historical background Significance of study of embryology Basic process of development : proliferation, growth, differentiation, inductors, evocators and organiser Cell division: Types, Chromosomal Anomalies Gametogenesis and maturation of Germ cells. Fertilization: Events, factors influencing the fertilisation Progress in 1st week of development Progress in 2nd week of development. Progress in 3rd week of development. Foetal membranes : Placenta, Chorion, Amnion, Umbilical cord, Yolk sac etc. Derivatives of germ layers: ectoderm, mesoderm & endoderm. Twins Congenital Malformations <p>Additional:</p> <ul style="list-style-type: none"> Human Evolution 	Lecture		16 hrs.	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Systemic Developmental Anatomy</i></p> <p>Student will be able to:</p> <ul style="list-style-type: none"> Describe the process of development of different body system Describe the developmental anomalies of different body system Give general outline of development of: Thoracic duct, Systema chyli, Inferior Vena Cava, Superior Vena Cava, Portal Vein, Brachiocephalic veins, & Renal veins. 	<p><u>CORE:</u> Development and their Anomalies of</p> <ul style="list-style-type: none"> Skeletal system & vertebral column Muscular system & the diaphragm Upper and lower extremities Face and neck and their associated organs Digestive system with associated glands Coelomic cavity & spleen Respiratory system Cardiovascular System Skin & mammary gland Supra-renal gland Urinary system Male and female Reproduction system Nervous system Eye, Ear and Nose <p><u>Additional:</u> Development of</p> <ul style="list-style-type: none"> Lymphatic System Vascular System 	Lecture		20 hrs.	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Neuroanatomy</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Define & classify neurone, neuroglia & nerve fibres Explain degeneration & regeneration of nerve fibres Describe composition of grey matter and white matter Explain upper motor & lower motor nerve Describe the coverings of brain & spinal cord Explain blood brain & blood CSF barrier Define & classify synapse, receptors, effectors, reflex & functions Describe the formation, composition, circulation, absorption & functions of CSF Describe the ventricles of brain Describe the different lobes, Gyri, sulci and important functional areas with effects of lesion Explain the mode of blood supply of cerebrum Describe the length, extension, enlargements & blood supply of spinal cord Describe the cross sections of spinal cord at different level Describe the important ascending & descending tracts with effects of lesions 	<p>CORE:</p> <ul style="list-style-type: none"> Introduction- Nervous tissue, neurone, neuralgia, nerve fibres, degeneration, regeneration, organisation of nervous system. Coverings of brain and spinal cord: Pia, arachnoid and dura mater Extension, folds, spaces, nerve supply & blood supply Barriers of brain Synapse, receptors, effectors, & reflex Cerebrospinal fluid (CSF) Ventricles of brain Cerebrum: Lobes: gyri, sulci Functional Areas Blood supply Spinal Cord: Length, extension, Enlargement Blood supply Cross-sections Ascending & Descending tracts 	Lecture		20 hrs.	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students should be able to:</p> <ul style="list-style-type: none"> Describe the different anatomical features of the brain stem and the cerebellum Describe the formation, functional components and distribution of spinal nerve Explain the dermatome & ganglia Describe cervical, brachial, lumbar and sacral plexuses Describe the different anatomical features of thalamus, hypothalamus, and basal nuclei Classify white matters of brain Describe internal capsule with effects of lesion Describe sympathetic & para sympathetic parts of autonomic nervous system with their clinical correlation Differentiate between sympathetic & para sympathetic system. Explain autonomic nerve plexuses & ganglia with their distribution Classify cranial nerves, explain functional components and cranial nerve nuclei, and describe the course of V, VII, IX, X, XI, XII cranial nerves Explain the smell, visual & auditory pathway Components and function of limbic system. Describe reticular formation & functions 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> Brain stem and cerebellum: The parts & their blood supply Cranial nerve nuclei in brain stem Cross sections of mid brain, pons and medulla oblongata at different levels, Functional lobes, nuclei, peduncles, blood supply, functions, & clinical conditions of cerebellum Spinal nerves: formation, functional components, & distribution Plexus: cervical, brachial, lumbar and sacral plexus Dermatome & Ganglia Thalamus: nuclei & functions of thalamus Boundary, nuclei, connections and functions of hypothalamus Components, artery supply, functions & effects of lesion of basal nuclei White matters of brain Internal capsule Autonomic nervous system: sympathetic & para sympathetic parts autonomic nerve plexuses & ganglia Cranial nerves Smell, visual & auditory pathway <p><u>Additional:</u></p> <ul style="list-style-type: none"> Limbic system Reticular formation 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Human Genetics</i></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Define terms related to human genetics Describe the different basic features of chromosomes Demonstrate basic knowledge on DNA & RNA Explain Mendel's Law of inheritance & Lyon's hypothesis Describe karyotyping & chromosomal aberration 	<p><u>CORE:</u></p> <p>Terms & definitions: Gene, Gene locus, genome, genotype, phenotype, genetic trait etc.</p> <ul style="list-style-type: none"> Chromosomes: Structure, types, behaviours, bio-chemical nature, & chromosomal disorders DNA and RNA: Structure, function, basis of protein synthesis Mendel's law of inheritance & Lyon's hypothesis Karyotyping Chromosomal aberration <p><u>Additional:</u></p> <ul style="list-style-type: none"> Outline of recent advances in Genetics Principles of genetic engineering Principles of cloning 	Lecture		6 hrs.	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Living (surface) Anatomy</i></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> • Locate, demonstrate on the surface of the body the different anatomical planes and land marks • Draw, demonstrate on the surface of the body the nine regions of the abdomen • Draw and indicate inguinal canal on the surface of the body • Draw and demonstrate on the surface of the body the important anatomical points, borders and parts of important organs • Draw and demonstrate on the surface of the body <p>❑ Important anatomical points, borders and parts of important organs</p>	<p><u>CORE:</u></p> <ul style="list-style-type: none"> • Trans-pyloric plane, Trans tubercular plane, Subcostal plane, mid clavicular, mid inguinal planes • Loin, groin, iliac crest, iliac spine, Costal margin, umbilicus, renal angle, pubic symphysis <p><u>Abdomen</u></p> <ul style="list-style-type: none"> • Regions on Abdomen • Inguinal canal • Stomach, Duodenum, Pancreas, Liver, Gall bladder, Bile duct portal vein, spleen, Kidney, Abdominal aorta, Inferior Vena cava, & Mac Burney's point <p><u>Additional:</u></p> <ul style="list-style-type: none"> • Transverse colon, ureter from front and back, celiac trunk, splenic artery, Root of the mesentery. 	Tutorials Demonstration		6 hrs.	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> • Draw and demonstrate on the surface of the body important anatomical points and structures of Head and Neck 	<p><u>Additional:</u></p> <ul style="list-style-type: none"> • Pterion, lambda • superior sagittal sinus • sigmoid sinus • central and lateral sulci • external and internal carotid artery • masseter muscle • Middle meningeal artery • phrenic • nerves, vagus nerve, Hypoglossal nerve 				

Regional Anatomy : THORAX CARD (DISSECTION, DEMONSTRATION & TUTORIAL)

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> • Demonstrate the boundary & identify the contents of mediastinum & inter costal space • Identify & demonstrate the surfaces, borders, parts, chambers- including structures within the chambers of the heart • Explain blood supply & nerve supply of heart • Identify & demonstrate the layers of pericardium • Identify & demonstrate the surfaces, borders, fissures, lobes, hilus & bronchopulmonary units of the lung • Identify & demonstrate the layers & parts of pleura. • Explain the blood supply & nerve supply of lung & pleura. • Identify & demonstrate the trachea bronchus & bronchial tree. • Explain blood supply & nerve supply of trachea & bronchial tree. • Explain the blood supply, nerve supply & lymphatic drainage of thoracic wall. • Identify & demonstrate the surfaces, parts openings, attachments of the diaphragm. • Explain the blood supply nerve supply of the diaphragm. • Explain the significance of the orifices of the diaphragm. • Identify & demonstrate the gross features of bones & joints of thorax • Correlate clinical conditions associated with structures of thorax (Heart with its vessels, lung, trachea, bronchus, bronchial tree & the Diaphragm) 	<ul style="list-style-type: none"> • Thoracic wall, thoracic cavity, pleura and mediastinum. • Heart with pericardium. • Lung, trachea and bronchus. • Blood vessels, nerves and lymphatics of the thorax. • The diaphragm. • Bones and joints of the thorax • Clinical Anatomy 			58 hrs.	Item & Card Completion Examination. (See– Appendix)

Regional Anatomy: SUPERIOR EXTREMITY CARD (DISSECTION, DEMONSTRATION & TUTORIAL)

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Identify & demonstrate muscles, vessels, nerves of pectoral region including attachment of muscles Demonstrate parts of mammary gland & its lymphatic drainage Demonstrate the boundary & identify the contents of axilla, Quadrangular & triangular spaces, & cubital fossa Demonstrate the attachments of muscles, and identify vessels, nerves, lymphatics & lymph nodes of different parts of superior extremity Demonstrate the gross features of bones & joints of superior extremity and muscles acting on joints Correlate clinical conditions associated with structures (nerves, vessels, bones, joints) of superior extremity 	<ul style="list-style-type: none"> Pectoral region with mammary gland Axilla Superficial dissection of the upper limb, back and scapula region including quadrangular & triangular space Front of the arm and forearm; palm Back of the arm, forearm; dorsum of the hand Removal of the limb □ Shoulder joint and acromioclavicular joint □ Other joints of the upper limb Clinical Anatomy 			62 hrs.	Item & Card Completion Examination. (See-Appendix)

Regional Anatomy: ABDOMEN CARD (DISSECTION, DEMONSTRATION & TUTORIAL)

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> • Demonstrate the different layers of anterior abdominal wall & hernial region • Explain clinical types of hernia • Demonstrate the different parts of GI Tract & its peritonium • Explain their mode of blood supply, lymphatic drainage & nerve supply • Demonstrate the features of liver, pancreas, supra renal gland & different parts of biliary system • Explain blood supply, lymphatic drainage & nerve supply of them. • Demonstrate the features of kidney, ureter, urinary bladder, & urethra • Explain their blood supply, lymphatic drainage & nerve supply • Demonstrate the features of different parts of male & female reproductive system. • Explain their blood supply, lymphatic drainage & nerve supply. • Demonstrate the muscles and identify the vessels, nerves & lymphatics of posterior abdominal wall • Demonstrate the parts and identify the contents of the pelvis • Differentiate between male & female pelvis • Correlate with clinical conditions associated with different organs of the abdomen 	<ul style="list-style-type: none"> • Anterior wall of the abdomen with hernial region. • Stomach, abdominal part of the oesophagus; coeliac artery. • Duodenum, pancreas and spleen. • The mesentery and mesenteric vessels, jejunum and ileum. • Large intestine. • Liver with the biliary apparatus including gall bladder; portal vein. • Kidney, suprarenal gland and ureter. • Muscles, blood vessels, lymphatics and nerves of the posterior abdominal wall. • Muscles, blood vessels lymphatics, nerves and the pelvis; urinary bladder. • Ovary, uterus, uterine tube, female external organs and perineum. • Vas deferens, seminal vesicle, prostate and male external genital organs. • Rectum and anal canal. • The diaphragm. • Clinical Anatomy 			128 hrs.	Item & Card Completion Examination . (See– Appendix)

Regional Anatomy: INFERIOR EXTREMITY CARD (DISSECTION, DEMONSTRATION & TUTORIAL)

Learning Objectives	Contents	Teaching Learning Strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> • Demonstrate muscles attachments and identify vessels & nerves of different parts of inferior extremity • Demonstrate the boundary and identify the contents of femoral triangle, adductor canal, & popliteal fossa • Demonstrate the features of bones, joints, & muscles acting on joints • Explain the Venous drainage, lymphatic drainage, & dermatome of inferior extremity • Correlate the clinical conditions associated with structures (nerves, vessels, bones, joints) of inferior extremity 	<ul style="list-style-type: none"> • Front and medial side of the thigh • Gluteal region and back of the thigh • Front of the leg and dorsum of the foot • Lateral side, medial side and back of the leg including the popliteal fossa • Hip joint and removal of the lower limb • Knee, ankle and tibiofibular joints • Joints and arches of the foot • Venous drainage, lymphatic drainage, cutaneous innervation & dermatome of inferior extremity • Clinical Anatomy 			60 hrs.	Item & Card Completion Examination. (See– Appendix)

Regional Anatomy: HEAD & NECK CARD (DISSECTION, DEMONSTRATION & TUTORIAL)

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> • identify and demonstrate the different parts of bones of head & neck • State the gross features & attachments of skull bones including base of skull & cervical vertebrae. • Demonstrate movements of joints of Head & Neck • Demonstrate the layers of scalp identify the contents of temporal region • Demonstrate the boundary of face and identify muscles and sensory supply of face • Identify parotid gland & duct & explain the structures within the parotid gland • Demonstrate the boundary and identify contents of anterior triangle, posterior triangle, sub-occipital triangle & sub-mandibular region • Demonstrate the boundary and identify contents of mouth cavity • Demonstrate the gross features & nerve supply of tongue • Explain Auditory pathway (VIII – cranial nerve) • Demonstrate the parts of pharynx with their extension & muscles of pharynx • the walls of nose and paranasal air sinuses • the extension, cartilages & muscles of larynx • Identify structures present in the internal surface of the larynx • Demonstrate the region of vertebral column and attachments of muscles of the back • Demonstrate the different parts of external, middle & internal Ear • Correlate important clinical conditions associated with structures in Head & Neck (Thyroid gland, parathyroid gland, air sinuses, Larynx, scalp, ear, face etc.) 	<ul style="list-style-type: none"> • Bones of head and neck • Scalp and temporal region • Face and orbit • Anterior triangle and submandibular region including thyroid gland • Posterior triangle • Mouth and tongue • Pharynx • Nose and paranasal sinuses • Larynx • Vertebral column and deep dissection of the back • Joints of the head neck • Organs of hearing and equilibrium. • Clinical Anatomy 			108 hrs.	Item & Card Completion Examination . (See– Appendix)

Regional Anatomy: CENTRAL NERVOUS SYSTEM & EYEBALL CARD (DISSECTION, DEMONSTRATION & TUTORIAL)

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> • demonstrate <ul style="list-style-type: none"> ❑ the boundary & contents of cranial cavity & orbit ❑ the different parts of brain & cranial nerves attached to brain ❑ the layers of meninges- Pia, arachnoid, and durameter • explain the processes of dura & its contents • explain the blood supply & nerve supply of the meninges • demonstrate the boundary of different lobes of cerebrum, sulci, gyri & important functional areas • explain the blood supply of cerebrum including the formation of Circle Willis • demonstrate the parts of <ul style="list-style-type: none"> ❑ diencephalon, pituitary gland, basal nuclei, ❑ internal capsule, extra pyramidal system & ❑ limbic system, brain stem • demonstrate <ul style="list-style-type: none"> • the course of cranial nerves • the boundary & parts of ventricles circulation of CSF through ventricles • gross features of spinal cord and its meninges and spinal nerves attached to it • the coats of eyeball & the course of optic nerve • explain Refractive Media • explain the effects of lesion and loss of blood supply to different parts of nervous system. 	<ul style="list-style-type: none"> • Introduction to the nervous system, cranial cavity and orbit. • General examination of the brain • Nerve attachments and meanings of the brain • Cerebrum.: <ul style="list-style-type: none"> • lobes of cerebrum, sulci, gyri & important functional areas • blood supply • formation of Circle Willis • Diencephalon: Thalamus, hypothalamus, metathalamus, epithalamus and pituitary gland • Basal nuclei, internal capsule, extra pyramidal system and limbic system. • Brain stem and reticular formation • Ventricles and cerebrospinal fluid • Spinal cord • Visual apparatus including the eyeball • Clinical Anatomy. 			54 hrs.	Item & Card Completion Examination . (See– Appendix)

Cell Biology & Histology Tutorial & Practical (Card I)

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> • Demonstrate different parts of microscope & how to handle it • State the principles of tissue preparation • Demonstrate the parts of cell • Explain cell division • Identify different types of tissue on slide under microscope 	<ul style="list-style-type: none"> • Microscope: Parts & how to handle Principles of different types of microscopy • Principles of tissue preparation and staining: Fixation, embedding, sectioning & staining • Cell and cell division • Epithelium: Simple squamous Simple cubical Simple columnar Pseudo stratified Stratified squamous Stratified cuboidal Stratified columnar Transitional • Connective tissue: Loose arteriolar tissue • Dense connective tissue: Hyaline, elastic and Bone fibrocartilage • Muscular tissue: Smooth, skeletal & cardiac muscle • Nervous tissue in general • Integumentary system: Layers of skin Thick skin Thin skin 			20 hrs.	Item & Card Completion Examination. (See-Appendix)

Cell Biology & Histology Tutorial & Practical (Card II)

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Students will be able to identify different structures of the following on slides under microscope: Glands Digestive system and hepatobiliary system Respiratory system. Lymphoid organs Cardiovascular system Endocrine system 	<ul style="list-style-type: none"> Glands is general and exocrine glands: Salivary glands Liver Pancreas Digestive system Tongue, pharynx, oesophagus, stomach, small intestine & large intestine (including vermiform appendix) Hepatobiliary Liver and gall bladder Respiratory system Larynx, trachea, bronchial tree and lung Cardiovascular system Arteries & veins Lymphatic system Lymph node, tonsil, spleen & thymus Endocrine system Thyroid, parathyroid, pituitary gland, adrenal gland. 			20 hrs.	Item & Card Completion Examination. (See– Appendix)

Cell Biology & Histology Tutorial & Practical (Card III)

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Students will be able to identify structures on slides under microscope: Urinary system Male & female reproductive system Nervous system Special sense organs 	<ul style="list-style-type: none"> Urinary system Kidney, ureter, urinary bladder Male reproductive system (including accessory glands) Testis, epididymis, vas deference, seminal vesicle, prostate Female reproductive system Ovary, fallopian tube, uterus, vagina Nervous system spinal cord, cerebrum, cerebellum, peripheral nerve (including the optic nerve) Special sense organs. Eyeball (cornea, retina), internal ear 			20 hrs.	Item & Card Completion Examination . (See– Appendix)

Integrated Teaching in Anatomy

- Integrated teaching on a particular organ or organ system by teachers from various disciplines is very much advocated. However, if full-scale integrated teaching is not practicable at the moment, a seminar can be arranged after completion of each card where teachers from various disciplines can address organs or organ systems from different functional and clinical angles.

Teaching / Learning & Assessment Methods

<i>Teaching / Learning Method</i>	<i>Teaching Aid</i>	<i>In Course Assessment</i>	<i>Summative Assessment</i>
Lecture	Slide projector, overhead projector (OHP), epidiascope, writing board.	<ul style="list-style-type: none"> Item Examination: Oral, Practical 	<ul style="list-style-type: none"> Written Oral ➤ Practical
Regional Anatomy: Demonstration & Tutorial	Cadavers, prosected parts, bones, viscera and other specimens of body parts, models, charts, writing board, Illustration sheets/posters, OHP, video, slide projector, computer with CD ROM, radiographs & other images.	<ul style="list-style-type: none"> Card Completion Examination Class Examinations 	
Regional Anatomy: Dissection	Cadavers, prosected parts, specimens and bones.	a) Term Examinations: Written, Oral, Practical	
Cell Biology & Histology Tutorial & Practical	Microscope, slide projector, OHP, , Illustration sheets (including photomicrographs & drawings)/posters, video projector, computer with CD ROM drive	<ul style="list-style-type: none"> Preparation of exercise book 	

Assessment in Anatomy

Component	Marks	Total Marks
Formative assessment	10+10	20
WRITTEN EXAMINATION		
paper-I- MCQ	20	180
SAQ	70	
paper-II- MCQ	20	
SAQ	70	
ORAL EXAMINATION (Structured)		
Hard part	75	150
Soft part	75	
PRACTICAL EXAMINATION		
Soft part		
Objective structured practical Exam (OSPE) including spotting exam		75
Dissection	30	
Anatomy of Radiology and imaging	30	
	15	
Hard part		75
OSPE including spotting exam	30	
Lucky slides	20	
Living Anatomy	20	
Practical Khata	05	
Grand Total		500

- There will be separate Answer Script for MCQ
- Pass marks 60 % in each of theoretical, oral and practical

Time allocation in Anatomy

Lecture & Review - 120 hours

Term	General Anatomy Hours	Cell Biology Hours	General Histology Hours	Systemic Histology Hours	General Devel. Anatomy Hrs	Systemic Devel. Anatomy Hrs	Neuroanatomy Hrs.	Human Genetics Hrs.	Total Hrs
First Term	11	6	16	-	14	-	-	-	47
Second Term	10	-	-	8	2	10	-	6	36
Third Term	1	-	-	6	-	10	20	-	37
Grand Total Hours (Class +Exam)	22 (21+1)	6 (5+1)	16 (15+1)	14 (13+1)	16 (15+1)	20 (19+1)	20 (19+1)	6 (5+1)	120 (112+8)

Cell Biology & Histology - Tutorial & Practical – 60 hours

Term	Class Hours (Including Item Exam Hrs)	Card Completion Exam Hours	Total Hours
First Term (Card I)	18	2	20
Second Term (Card II)	18	2	20
Third Term (Card III)	18	2	20
Grand Total Hours	54	6	60

Regional Anatomy

Dissection, Demonstration and Tutorial/Review – 470 hours

Term	Cards	Dissection	Demonstration	Tutorial Review			Part Completion Examination Hours	Total Hours
				Living (surface) Anatomy	Anatomy of Imaging	Clinical Anatomy		
First Term	Thorax	30	8	4	2	3	10	57
	Superior Extremity	34	8	4	2	3	10	61
Second Term	Abdomen	86	16	6	5	7	10	130
	Inferior Extremity	34	8	4	2	2	10	60
Third Term	Head, Neck	76	12	4	2	4	10	108
	Central Nervous system and Eye ball	30	8	2	2	2	10	54
Grand Total Hours		290	60	24	15	21	60	470

ACADEMIC CALENDAR for ANATOMY

Class/Exam	Hours(including Class exams hrs)	First Term (18 working weeks)	Evaluation –6 weeks	Second Term (18 working weeks)	Evaluation –6 weeks	Third Term (18 working weeks)	Evaluation –6 weeks
Lecture and Review	120	<ul style="list-style-type: none"> General Anatomy-11 hrs Cell Biology -06 hrs General Histology-16 hrs General Devel. Anatomy - 14 hrs 		<ul style="list-style-type: none"> General Anatomy-10 hrs Systemic Histology - 08 hrs 1. General Devel. Anatomy - 2 hrs 2. Systemic Devel Anatomy - 10 hrs 3. Human Genetics - 06 hrs 		<ul style="list-style-type: none"> a) General Anatomy - 1 hr b) Systemic Histology -06 hrs c) Systemic Devel Anatomy - 10 hrs d) Neuroanatomy - 20 hrs 	
Demonstration	60	Thorax Card – 8 hrs Sup. Ext. Card – 8 hrs		Abdomen Card – 16 hrs Inf. Ext. Card – 8 hrs		Head and Neck Card – 12 hrs C. N. S & Eyeball Card – 8 hrs	
Tutorial/ Review	60	Thorax Card – 10 hrs Sup. Ext. Card – 10 hrs		Abdomen Card – 16 hrs Inf. Ext. Card – 8 hrs		Head & Neck Card – 10 hrs C.N.S & Eyeball V– 6 hrs	
Dissection	290	Thorax Card - 30 hrs Sup Ext Card- 34 hrs		Abdomen Card – 86 hrs Inf. Ext. Card – 34 hrs		Head & Neck Card – 76 hrs C.N.S & Eyeball Card - 30 hrs	
Card Completion Exam	60	Thorax Card- 10 hrs Sup Ext. Card- 10 hrs		Abdomen Card– 10 hrs Inf. Ext. Card – 10 hrs		Head & Neck Card –10 hrs C.N.S & Eyeball Card - 10 hrs	
Cell Biology & Histology- Tutorial/ Practical	60	Card I – 20 hrs		Card II - 20 hrs		Card III – 20 hrs	
Grand Total	650						

N.B. – Card completion examinations will be arranged on discussion with other departments (Physiology, Biochemistry, Community Medicine)

Prerequisite for 1st professional examination

1. A Student must pass all term exam before appearing 1st professional exam.
2. Class attendance must be 75 %

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INFERIOR EXTREMITY CARD
(ITEM EXAM FOLLOWING DISSECTION, DEMONSTRATION & TUTORIAL)

Year	
Session	
Roll No.	
Batch	

Card no.	
Cadaver no.	
Total marks	
Pass marks	

Name of the student			
Period of placement	From :		To :

Part for dissection (item)	Date of beginning	Date of examination	Marks obtained	Remarks and Signature of the Lecturer
1. Front and medial side of the thigh.				
2. Gluteal region and back of the thigh.				
3. Hip joint and removal of the lower limb.				
4. Front of the leg and dorsum of the foot.				
5. Lateral side, medial side and back of the leg including the popliteal fossa.				
6. Knee, ankle and tibiofibular joints.				
7. Joints and arches of the foot.				
8. Living Anatomy, Sectional Anatomy.				
9. Anatomy of Imaging and Clinical Anatomy.				

No. of attendance in the practical classes of the card		Out of	
Mark obtained			
Remarks			
Signature of the Lecturer			
Signature of Head of the Department			

DEPARTMENT OF ANATOMY
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THORAX CARD

(ITEM EXAM FOLLOWING DISSECTION, DEMONSTRATION & TUTORIAL)

Year	
Session	
Roll No.	
Batch	

Card no.	
Cadaver no.	
Total marks	
Pass marks	

Name of the student				
Period of placement	From :		To :	

Part for dissection (item)	Date of beginning	Date of examination	Marks obtained	Remarks and Signature of the Lecturer
1. Thoracic wall, thoracic cavity, pleura and mediastinum.				
2. Heart with pericardium.				
3. Lung, trachea and bronchus.				
4. Blood vessels, nerves and lymphatics of the thorax.				
5. Bones and joints of the thorax.				
6. Living Anatomy.				
6. Anatomy of Imaging and Clinical Anatomy				

No. of attendance in the practical classes of the card		Out of	
Mark obtained			
Remarks			
Signature of the Lecturer			
Signature of Head of the Department			

DEPARTMENT OF ANATOMY
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ABDOMEN CARD
(ITME EXAM FOLLOWING DISSECTION, DEMONSTRATION & TUTORIAL)

Year	
Session	
Roll No.	
Batch	

Card no.	
Cadaver no.	
Total marks	
Pass marks	

Name of the student			
Period of placement	From :		To :

Part for dissection (item)	Date of beginning	Date of examination	Mark obtained	Remarks and Signature of the Lecturer
1. Anterior wall of the abdomen with hernial region.				
2. Stomach, abdominal part of the oesophagus; coeliac artery				
3. Duodenum, pancreas and spleen.				
4. The mesentery and mesenteric vessels, jejunum and ileum.				
5. Large intestine.				
6. Liver with the biliary apparatus including gall bladder; portal vein.				
7. Kidneys, suprarenal glands and ureters.				
8. Muscles, blood vessels, lymphatics and nerves of the posterior abdominal wall.				
9. Muscles, blood vessels, lymphatics, nerves an joints of the pelvis; urinary bladder.				
10. Ovaries, uterus, uterine tubes, female external genital organs and perineum.				
11. Vas deferens, seminal vesicles, prostate and male external genital organs.				
12. Rectum and anal canal.				
13. The diaphragm.				
14. Living Anatomy.				
15. Anatomy of Imaging and Clinical Anatomy				

No. of attendance in the practical classes of the card		Out of	
Mark obtained			
Remarks			
Signature of the Lecturer			
Signature of Head of the Department			

DEPARTMENT OF ANATOMY
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SUPERIOR EXTREMITY CARD
(ITEM EXAM FOLLOWING DISSECTION, DEMONSTRATION & TUTORIAL)

Year	
Session	
Roll No.	
Batch	

Card no.	
Cadaver no.	
Total marks	
Pass marks	

Name of the student			
Period of placement	From :		To :

Part for dissection (item)	Date of beginning	Date of examination	Marks obtained	Remarks and Signature of the Lecturer
1. Pectoral region with mammary gland.				
2. Axilla.				
3. Superficial dissection of the upper limb, back and scapula region.				
4. Front of the arm and forearm; palm				
5. Back of the arm forearm; dorsum of the hand.				
6. Removal of the limb; shoulder joint and acromioclavicular joint.				
7. Other joints of the upper limb.				
8. Living Anatomy				
9. Anatomy of Imaging and Clinical Anatomy.				

No. of attendance in the practical classes of the card		Out of	
Mark obtained			
Remarks			
Signature of the Lecturer			
Signature of Head of the Department			

DEPARTMENT OF ANATOMY
.....MEDICAL COLLEGE

HEAD AND NECK CARD
(ITEM EXAM FOLLOWING DISSECTION, DEMONSTRATION & TUTORIAL)

Year	
Session	
Roll No.	
Batch	

Card no.	
Cadaver no.	
Total marks	
Pass marks	

Name of the student			
Period of placement	From :		To :

Part for dissection (item)	Date of beginning	Date of examination	Mark obtained	Remarks and Signature of the Lecturer
1. Introduction to the bones of head and neck.				
2. Scalp and temporal region.				
3. Face and orbit.				
4. Anterior triangle and submandibular region.				
5. Posterior triangle.				
6. Mouth and tongue.				
7. Pharynx.				
8. Nose and paranasal sinuses.				
9. Larynx.				
10. Vertebral column and deep dissection of the back.				
11. Joints of the head neck				
12. Organs of hearing and equilibrium.				
13. Living Anatomy.				
14. Anatomy of Imaging and Clinical Anatomy.				

No. of attendance in the practical classes of the card		Out of	
Mark obtained			
Remarks			
Signature of the Lecturer			
Signature of Head of the Department			

DEPARTMENT OF ANATOMY
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CENTRAL NERVOUS SYSTEM AND EYEBALL CARD
(ITEM EXAM FOLLOWING DISSECTION, DEMONSTRATION & TUTORIAL)

Year	
Session	
Roll No.	
Batch	

Card no.	
Cadars no.	
Total marks	
Pass marks	

Name of the student			
Period of placement	From :		To :

Part for dissection (item)	Date of beginning	Date of examination	Mark obtained	Remarks and Signature of the Lecturer
1. General introduction to the nervous system, cranial cavity and orbit.				
2. General examination of the brain with its nerve attachments and meninges.				
3. Cerebrum.				
4. Diencephalon and pituitary gland.				
5. Basal ganglia, internal capsule, extra pyramidal system and limbic system.				
6. Brain stem, reticular formation & Cerebellum				
7. Ventricles and cerebrospinal fluid.				
8. Spinal cord.				
9. Visual apparatus including the eyeball.				
10. Living Anatomy.				
11. Anatomy of Imaging and Clinical Anatomy.				

No. of attendance in the practical classes of the card		Out of	
Mark obtained			
Remarks			
Signature of the Lecturer			
Signature of Head of the Department			

DEPARTMENT OF ANATOMY
.....MEDICAL COLLEGE

HISTOLOGY CARD NO. I

Year	
Session	
Roll No.	
Batch	

Total marks	
Pass marks	

Name of the student				
Period of placement	From :		To :	

Item	Date of beginning	Date of examination	Marks obtained	Remarks and Signature
1. Study of microscope				
2. Principles of tissue preparation and staining (routine)				
3. Cell and cell division				
4. Epithelium				
5. Connective tissue				
6. Muscular tissue				
7. Nervous tissue in general				
8. Skin				

Total No. of attendance		Out of	
Marks obtained			
Remarks			
Signature of the Lecturer			
Signature of the Prof. of Anatomy			

DEPARTMENT OF ANATOMY
.....MEDICAL COLLEGE

HISTOLOGY CARD NO. II

Year	
Session	
Roll No.	
Batch	

Total marks	
Pass marks	

Name of the student				
Period of placement	From :		To :	

Item	Date of beginning	Date of examination	Marks obtained	Remarks and Signature
1. Glands in general and exocrine glands				
2. Digestive system and Hepatobiliary system				
3. Respiratory system				
4. Cardiovascular system				
5. Lymphatic system				
6. Endocrine system				

Total No. of attendance		Out of	
Marks obtained			
Remarks			
Signature of the Lecturer			
Signature of the Prof. of Anatomy			

DEPARTMENT OF ANATOMY
.....MEDICAL COLLEGE

HISTOLOGY CARD NO. III

Year	
Session	
Roll No.	
Batch	

Total marks	
Pass marks	

Name of the student				
Period of placement	From :		To :	

Item	Date of beginning	Date of examination	Marks obtained	Remarks and Signature
1. Urinary system				
2. Male reproductive system				
3. Female reproductive system				
4. Nervous system				
5. Special sense organs				

Total No. of attendance		Out of	
Marks obtained			
Remarks			
Signature of the Lecturer			
Signature of the Prof. of Anatomy			

PHYSIOLOGY

Departmental Objective:

At the end of the course in Physiology students will be able to:

- understand the normal function of human body and utilize it as a background for clinical studies.
- explain normal reactions to environment and homeostatic mechanism
- interpret normal function with a view to differentiate from abnormal function
- demonstrate knowledge and skill to proceed to higher studies and research in physiology in relation to needs and disease profile of the country
- perform and interpret physiology laboratory tests & procedure
- develop sound attitude towards the need for continuing self-education

Organization of the Course:

- The course is offered in 3 terms (1st, 2nd & 3rd) total 1&1/2 year for MBBS Course.
- Allocation of total teaching hours: 380 hours.

Lecture	- 120 hours
Tutorial	- 120 hours
Practical	- 120 hours
Integrated Teaching	- 20 hours
<hr/>	
= 380 hours	

PHYSIOLOGY

[illegible]

v L = Lecture, T = Tutorial, P = Practical, IT = Integrated Teaching

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Describe blood groups and Rh incompatibilities. Students will be able to state the clinical significance of Blood Grouping in transfusion of blood & related materials 	<ul style="list-style-type: none"> White Blood: <ul style="list-style-type: none"> Classification, morphology, total count, properties, functions. Leucocytosis and leucopenia; Monocyte macrophage system Thrombocytes: <ul style="list-style-type: none"> □ Morphology, normal counts and function, thrombocytopenia. Blood coagulation and anticlotting system. Haemoglobin: Biocynthesis, Normal values, types, functions and fate, anaemia and jaundice. Blood groups: <ul style="list-style-type: none"> OAB system Rh – system MN system Medicolegal importance of blood groups. Transfusion of blood and related materials; Hazards of blood transfusion and Rh-incompatibility. <p><u>Additional:</u></p> <ul style="list-style-type: none"> Resistance of the body to infection; Immunity, allergy and inflammation. 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Cardiovascular System</i></p> <p>The students will be able to:</p> <ul style="list-style-type: none"> Describe the structure & properties of cardiac muscle Describe the phases and events of cardiac cycle Describe and interpret a normal ECG. Describe regulation of cardiac output and venous return Explain the control of blood flow in different Physiological condition Describe regulation of coronary, pulmonary & cerebral circulation. Explain circulatory adjustment during muscular exercise Describe the regulation of blood pressure in health and in Physiological condition Describe the causes of shock and the physiological basis of treatment of shock. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> Physiology of cardiac muscle. Specialised excitatory and conductive system of the heart. Generation and conduction of cardiac impulse. Cardiac cycle- events. Pressure and volume changes during different events of cardiac cycle. Normal electrocardiogram and heart sounds and apex beat. Regulation of heart function. Cardiodynamics: <ul style="list-style-type: none"> Cardiac output, venous return and their regulation. Physics of blood, blood flow and pressures. Blood pressure and its regulation; pulse. Blood vessels – physiological classification. Nervous and chemical control of blood vessels. Local blood flow by the tissues and its regulation. Regional Circulation-coronary, pulmonary, renal, cerebral, splanchnic and skin blood flow. Muscle blood flow during exercise. <p><u>Additional:</u></p> <ul style="list-style-type: none"> Heart block, Heart failure, Hypertension. 	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Integrated Teaching</p> <p>Self learning</p>	<p>OHP</p> <p>Video tape</p> <p>TV, VCR</p> <p>Audio Cassette & Player</p> <p>Slide Projector</p> <p>Black board Chalk</p> <p>White board Marker</p> <p>Chart / models</p> <p>Specimen</p> <p>Flip chart</p> <p>Computer</p> <p>Study guide Manual</p>	<p>L = 18 hrs. T = 18 hrs. P = 28 hrs. IT = 02 hrs.</p>	<p>Short answer & Question (SAQ)</p> <p>Structural essay question (SEQ)</p> <p>OSPE</p> <p>Traditional Practical</p> <p>Oral</p> <p>Practical Notebook</p>

v L = Lecture, T = Tutorial, P = Practical, IT = Integrated Teaching

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Respiratory System</i></p> <p>At the end of the course the students will be able to:</p> <ul style="list-style-type: none"> • Explain the mechanism of respiration • Describe lung volumes and capacities and their clinical correlation • Describe O₂ and CO₂ transport and exchange • Describe regulation of respiration in health and diseases • Describe the causes of hypoxia and cyanosis • Describe the indication of O₂ therapy and O₂ toxicity 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> • Introduction of respiratory apparatus. • Pulmonary ventilation, Mechanism of respiration • Pulmonary pressures; Lung compliance. • Lung function tests, respiratory volumes and capacities, FEV₁. • Alveolar ventilation; Dead space. • Physical principles of gaseous exchange • Composition of atmospheric, alveolar, inspired and expired air. • Gaseous exchange. • Respiratory unit and membrane. • Oxygen transport in blood and body fluids. • Oxy-haemoglobin dissociation curve and the factors affecting it. • Carbon dioxide transport and chloride shift mechanism. • Carbon dioxide dissociation curve. • Bohr and Haldane effects. • Regulation of respiration;- nervous and chemical. • Regulation of respiration during muscular exercise. • Physiologic basis of respiratory insufficiency. • Cyanosis; Asphyxia. • Periodic breathing. • Respiratory acidosis and alkalosis • Hypoxia: <p>Due to deficiency of oxygen in atmosphere. Due to inadequate transport and delivery of oxygen. Due to inadequate tissue capability of using oxygen.</p>	<p>Lecture</p> <p>Tutorial</p> <p>Integrated Teaching</p> <p>Self learning</p>	<p>OHP</p> <p>Video tape</p> <p>TV, VCR</p> <p>Audio Cassette & Player</p> <p>Slide Projector</p> <p>Black board Chalk</p> <p>White board Marker</p> <p>Chartmodels</p> <p>Specimen</p> <p>Flip chart</p> <p>Computer Study guide</p> <p>Manual</p>	<p>L = 12 hrs. T = 12 hrs. P = 10 hrs. IT = 02 hrs.</p>	<p>Short Answer & Question (SAQ)</p> <p>Structural Essay Question (SEQ)</p> <p>OSPE</p> <p>Traditional Practical</p> <p>Oral</p> <p>Practical Notebook</p>

v L = Lecture, T = Tutorial, P = Practical, IT = Integrated Teaching

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Renal Physiology & Body fluid</p> <p>At the end of the course the students will be able to:</p> <ul style="list-style-type: none"> Describe the structure & function of nephron. Explain mechanism of urine formation. Explain mechanism of micturation. Explain concept of plasma clearance and interpret kidney function tests & explain its clinical importance Describe body fluids compartments; regulation of body fluid. Describe mechanism of water balance and osmotic diuresis. 	<p>CORE:</p> <ul style="list-style-type: none"> Kidney – Functional Structure. Physiology of kidneys. Renal circulation. Urine formation: <ul style="list-style-type: none"> Glomerular filtration and their control. Processing of the filtrate in the tubules- reabsorption and secretion of different components. Mechanism of formation of concentrated urine (counter-current mechanism) Mechanism of formation of diluted urine. Mechanism of acidification of urine. Physiology of micturation. Kidney function tests – normal urine. Concept of plasma clearance; osmolar clearance.free water clearance- positive and negative free water clearance. T_m, Renal threshold, tubular load. Capillary dynamics, and exchange of fluid between blood and interstitial fluid. Body fluids types, compartments, measurements, composition. Body water and water balance Water and osmotic diuresis. Mechanisms for controlling ECF volume and osmolarity. Lymphatic system, interstitial fluid dynamics, oedema and pulmonary fluid. The special fluid system of the body-CSF, ocular, Pleural, pericardial, peritoneal and synovial fluid. 	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Integrated Teaching</p> <p>Self learning</p>	<p>OHP</p> <p>Video tape</p> <p>TV, VCR</p> <p>Audio Cassette & Player</p> <p>Slide Projector</p> <p>Black board Chalk</p> <p>White board Marker</p> <p>Chartmodels</p> <p>Specimen</p> <p>Flip chart</p> <p>Computer</p> <p>Study guide</p> <p>Manual</p>	<p>L = 12 hrs. T = 12 hrs. P = 06 hrs. IT = 02 hrs.</p>	<p>Short answer & Question (SAQ)</p> <p>Structural essay question (SEQ)</p> <p>OSPE</p> <p>Traditional Practical</p> <p>Oral</p> <p>Practical Notebook</p>

- L = Lecture, T = Tutorial, P = Practical, IT = Integrated Teaching

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Alimentary System</i></p> <p>At the end of the course the students will be able to:</p> <ul style="list-style-type: none"> Describe general principles of gastrointestinal function. Describe movements of GIT Describe the transport & mixing of food in GIT Describe functions and explain mechanism of regulation of the secretion of digestive juices Interpret liver function tests and explain its clinical importance Describe Physiology of gastrointestinal disorders. 	<p>CORE:</p> <ul style="list-style-type: none"> Introduction to alimentary systems Movements of the GIT. Transport and mixing of food in the GIT, Swallowing, motor functions of stomach and intestines, defecation reflex. Digestive juices- composition, secretion and their regulation, functions: Saliva and gastric juice. Pancreatic secretion and succus entericus. Bile. Functional structure of liver and its functions. Hepatic circulation. Liver function tests. Digestion and absorption of nutrients. 	<p>Lecture</p> <p>Tutorial</p> <p>Integrated Teaching</p> <p>Self learning</p>	<p>OHP</p> <p>Video tape</p> <p>TV, VCR</p> <p>Audio Cassette & Player</p> <p>Slide Projector Black board Chalk</p> <p>White board Marker</p> <p>Chart models</p> <p>Specimen</p> <p>Flip chart</p> <p>Computer</p> <p>Study guide Manual</p>	<p>L = 10 hrs. T = 10 hrs. P = 04 hrs. IT = 02 hrs.</p>	<p>Short answer & Question (SAQ)</p> <p>Structural essay question (SEQ)</p> <p>OSPE</p> <p>Traditional Practical</p> <p>Oral</p> <p>Practical Notebook</p>

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Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Endocrinology and Reproduction</p> <p>At the end of the course the students will be able to:</p> <ul style="list-style-type: none"> Describe types, general mechanism of action, function and control of secretion of hormone. Describe functions, regulation of secretion of individual hormones Describe disorders in relation to: <ul style="list-style-type: none"> Pituitary gland Thyroid and parathyroid gland Adrenal gland Endocrine pancreases Gonads: Describe Fertility, sterility and contraception Describe Physiology of pregnancy Describe foetal and neonatal Physiology 	<p>CORE:</p> <ul style="list-style-type: none"> Introduction to endocrinology- glands. Hormones- types, basic mechanism of action, regulation of secretion and functions, measurements, hypothalamic, releasing hormones, local hormones. Pituitary hormones and their control by the hypothalamus, functions and disorders (Dwarfism, gigantism, acromegaly & hypopituitarism) Thyroid hormones – control of secretion, functions and disorders (Hypo- and hyperthyroidism, Cretinism, Myxoedema and goitre); Thyroid function tests. Parathyroid hormone- functions; regulation of secretion; Tetany. Adrenocortical hormones- functions and regulation of secretion, disorders (Addison's disease, Cushing's Syndrome, Conn's disease) Insulin, glucagon- functions; Diabetes Mellitus Introduction to reproductive organs & sex differentiation. Puberty. Testicular hormones- functions, Regulations of testosterone, hyper, hypo Gonads: <p>Secondary sex characteristics- male and female, Ovarian and menstrual cycle with their regulation, Breast development in female in different physiologic conditions and age.</p> <ul style="list-style-type: none"> Spermatogenesis- steps, control; Semen: Fertility; Sterility. Ovary – structural, hormonal and functional aspects, Ovarian and menstrual cycle; Ovulation; Menarche; Menstruation; Menopause; fertility; Sterility Male and female contraception. Physiology of pregnancy; Placenta-hormones, functions; Fetal circulation. Mamogenesis – Development and lactation. Fetal and neonatal physiology <p>Additional: Prostaglandin</p>	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Integrated Teaching</p> <p>Self Learning</p>	<p>OHP</p> <p>Video tape</p> <p>TV, VCR</p> <p>Audio Cassette & Player</p> <p>Slide Projector</p> <p>Black board Chalk</p> <p>White board Marker</p> <p>Chart models</p> <p>Specimen</p> <p>Flip chart</p> <p>Computer Study guide Manual</p>	<p>L = 20 hrs. T = 20 hrs. P = 04 hrs. IT = 02 hrs.</p>	<p>Short answer & Question (SAQ)</p> <p>Structural essay question (SEQ)</p> <p>OSPE</p> <p>Traditional Practical</p> <p>Oral</p> <p>Practical Notebook</p>

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Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Nervous System</p> <p>At the end of the course the students will be able to:</p> <ul style="list-style-type: none"> Explain organisation of the nervous system; functions and properties of neurones Explain basic mechanism of synaptic and neuromuscular transmitters. Describe sensory receptors, dorsal column and spino thalamic system Describe the motor control system: Pyramidal system, Extra pyramidal system & cerebellum. Describe effects of lesion at various level of CNS. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> Organisation of the nervous system. Neurones Nerve fibers – types, properties, effects of injury/ section to the nerve fibers. Synapse; Synaptic transmission. Neurotransmitters Sensory systems of the body: Receptors – classification, properties, functions. Sensory pathways of the spinal cord. Somatosensory cortex. Motor systems of the body: Motor cortex Spinal cord- Organisation, Reflex action; Muscle Spindle and muscle tone. Motor pathways and effects of spinal cord section. Brain stem- posture and equilibrium. Cerebellum – Functional anatomy & input and output system, neuronal circuit, function and its disorders, regulation of voluntary and involuntary movements. Basal ganglia – functional anatomy, functions and disorders. Thalamus-organisation, connections, functions 	<p>Lecture</p> <p>Tutorial</p> <p>Practical Integrated</p> <p>Self Learning</p>	<p>OHP</p> <p>Video tape</p> <p>TV, VCR</p> <p>Audio Cassette & Player</p> <p>Slide Projector</p> <p>Black board Chalk</p> <p>White board Marker</p> <p>Chartmodels</p> <p>Specimen Flip chart</p> <p>Computer</p> <p>Study guide Manual</p>	<p>L = 20 hrs. T = 20 hrs. P = 12 hrs. IT = 02 hrs.</p>	<p>Summative:</p> <p>Short answer & Question (SAQ)</p> <p>Structural essay question SEQ)</p> <p>OSPE</p> <p>Traditional Practical</p> <p>Oral</p> <p>Practical Notebook</p>

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Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Describe functions of hypothalamus and regulation of body temperature. Describe organisation & function of autonomic nervous system Describe functions of reticular formation & limbic system Describe states of brain activity during sleep; wakefulness Describe mechanism of formation, absorption of CSF. 	<ul style="list-style-type: none"> Hypothalamus- Functional anatomy, functions; <p>Temperature regulation</p> <p>Regulation of emotion</p> <p>Regulation of fluid intake and thirst.</p> <p>Regulation of hunger</p> <ul style="list-style-type: none"> Physiology of Autonomic Nervous System Secretion of adrenal medulla and their functions and regulation of secretion Limbic system- emotion and behaviour Reticular formation – sleep, wakefulness Cerebral cortex – motor and sensory function; and intellectual functions of the brain CSF; Blood- brain barrier <p>Additional</p> <p>☐ Physiology of pain</p>				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Special Senses</p> <p>At the end of the course the students will be able to:</p> <ul style="list-style-type: none"> • Explain optics of vision • Describe neurophysiology of vision and visual pathway • Explain errors of refraction; accommodation and light reflexes; dark and light adaptation. • Explain mechanism of hearing and describe auditory pathway • Describe the Physiology of smell and taste • Interpret common tests 	<p><u>CORE:</u></p> <p>Vision</p> <ul style="list-style-type: none"> • Functional anatomy of visual apparatus. • Refractive media • Layers of retina, Image formation in the eye • Neurophysiology and photochemistry of vision. • Visual pathway, effects of lesion at different levels • Accommodation-mechanism and pathway. • Light reflex pathway • Adaptation. • Refractive errors. • Field of vision; Colour vision and Visual acuity <p>Hearing</p> <ul style="list-style-type: none"> • Auditory apparatus; Auditory pathway; • Mechanism of hearing & effects of lesion. <p>Smell & Taste</p> <ul style="list-style-type: none"> • Physiology of taste and smell-receptors and pathways • Functions of nose. • Modalities of taste sensation <p><u>Additional:</u></p> <ul style="list-style-type: none"> • Vision tests • Hearing tests • Deafness 	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>integrated Teaching</p> <p>Self Learning</p>	<p>OHP</p> <p>Video tape</p> <p>TV, VCR</p> <p>Audio Cassette & Player</p> <p>Slide Projector</p> <p>Black board Chalk</p> <p>White board Marker</p> <p>Chartmodels</p> <p>Specimen</p> <p>Flip chart</p> <p>Computer</p> <p>Study guide Manual</p>	<p>L = 08 hrs. T = 08 hrs. P = 06 hrs. IT = 02 hrs.</p>	<p>Short answer & Question(SAQ)</p> <p>Structural essay question (SEQ)</p> <p>OSPE</p> <p>Traditional Practical</p> <p>Oral</p> <p>Practical Notebook</p>

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Physiology Practical

[illegible]

Teaching Methods & Teaching Aids

Teaching Methods			Teaching Aids
Large group teaching	Small group activities	Self learning	
<ul style="list-style-type: none"> • Lecture • Integrated teaching 	<ul style="list-style-type: none"> • Tutorial • Practical 		<ul style="list-style-type: none"> • OHP • Video tapes and TV, VCR, audio cassette and audio player • Slide projector • Chart, models, specimens, flip charts • White board & markers • Chalk and board • Computer • Study guide and manuals

Distribution of Teaching Hours				
System	Lecture	Tutorial	Practical	Integrated Teaching
1. General Physiology	5	5	2	2
2. Blood	15	15	48	4
3. Cardiovascular System	18	18	28	2
4. Respiratory System	12	12	10	2
5. Alimentary System	10	10	4	2
6. Renal Physiology & body fluid	12	12	6	2
7. Endocrinology & Reproduction	20	20	4	2
8. Nervous System & Temp Regulation	20	20	12	2
9. Special Senses	8	8	6	2
Total	120	120	120	20

Assessment of Physiology

Summative Assessment (First Professional Examination)

Components	Marks	Total Marks	
Formative assessment	10+10	20	
WRITTEN EXAMINATION Paper – I- MCQ SAQ Paper - II- MCQ SAQ	20 70 20 70	180	Paper – I 1. General Physiology 2. Blood 3. Cardiovascular 4. Respiratory System 5. Alimentary System
PRACTICAL EXAMINATION OSPE Traditional practical methods and experiments Practical Note Book	40 50 10	100	Paper - II Renal Physiology & body fluid 2. Endocrine & reproductive 3. Nervous System & Temp. Regulation 4. Special senses
ORAL EXAMINATION (Structured) 2 boards (4 examiners) (2 internals) (2 externals)		100	
Grand Total		400	

- There will be separate Answer Script for MCQ
- Pass marks 60 % in each of theoretical, oral and practical

Academic Calendar for Physiology

First Term				
System	Lectures	Tutorials	Practical	Seminar
General Physiology	05 hrs.	05 hrs.	02 hrs.	02 hrs.
Blood	15 hrs.	15 hrs.	48 hrs.	04 hrs.
Cardiovascular System	18 hrs.	18 hrs.	28 hrs.	02 hrs.

Second Term				
System	Lectures	Tutorials	Practical	Seminar
Respiratory System	12 hrs.	12 hrs.	12 hrs.	12 hrs.
Alimentary System	10 hrs.	10 hrs.	10 hrs.	10 hrs.
Renal Physiology & body fluid	12 hrs.	12 hrs.	12 hrs	12 hrs

Third Term				
System	Lectures	Tutorials	Practical	Seminar
Endocrinology & Reproduction	20 hrs.	20 hrs.	04 hrs.	02 hrs.
Nervous System & Temp. Regulation	20 hrs.	20 hrs.	12 hrs.	02 hrs.
Special Senses	08 hrs	08 hrs	06 hrs	02 hrs

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Teaching hours</i>	<i>Department</i>
<ul style="list-style-type: none"> Diarrhoeal diseases 	<ul style="list-style-type: none"> Identify/diagnose a case of diarrhoea List the common causes of diarrhoea Describe the physiological basis of management Perform maintain the fluid balance chart 	Patient ORS packet I.V. fluids		Paediatrics Medicine Biochemistry Microbiology Community Medicine
<ul style="list-style-type: none"> Anaemia 	<ul style="list-style-type: none"> Define anaemia List the common causes Identify a case of anaemia List the common investigations Indications of blood & blood products transfusions 	Patient Laboratory reports Iron drugs Blood transfusion set		Obstetrics & Gynaecology Medicine Surgery Haematology Blood transfusion Community Medicine
<ul style="list-style-type: none"> Malnutrition & undernutrition 	<ul style="list-style-type: none"> Describe common nutritional disorders of the country 	Flip chart Poster Patient		Community Medicine Paediatrics
<ul style="list-style-type: none"> Iodine deficiency disorder 	<ul style="list-style-type: none"> Describe iodine metabolism List iodine deficiency disorders (IDD) Interpret thyroid function tests and explain the clinical importance 	Chart Poster Patient		Anatomy Biochemistry Surgery Medicine
<ul style="list-style-type: none"> Hypertension 	<ul style="list-style-type: none"> Define blood pressure Outline normal range of blood pressure Measure blood pressure Describe regulatory systems of blood pressure Enumerate the causes & consequences of hypertension with management 	Sphygmomanometer Stethoscope Patient		Medicine Obstetrics & Gynaecology Biochemistry Anatomy

<ul style="list-style-type: none"> Ischaemic heart diseases 	<ul style="list-style-type: none"> Describe Coronary circulation. Describe causes of shock Explain Physiological basis of treatment of shock 	E.C.G. Echocardiogram		Cardiology Biochemistry Anatomy
<ul style="list-style-type: none"> Fertility & its regulation 	<ul style="list-style-type: none"> Describe physiology of reproduction (male & female) Describe common methods of contraception 	Flip chart Models Video		Obstetrics & Gynaecology Community Medicine
<ul style="list-style-type: none"> Peptic Ulcer 	<ul style="list-style-type: none"> Describe Mechanism of gastric hydrochloric acid secretion Name receptors of parietal cells Describe physiological basis of treatment 	Endoscope		Gastreterology Medicine
<ul style="list-style-type: none"> Diabetes mellitus 	<ul style="list-style-type: none"> Describe hormones of the Islet cells Glucose metabolism Investigations & consequences of diabetes mellitus 	Spectrophotometer Video		Biochemistry Medicine Obstetrics & Gynaecology
<ul style="list-style-type: none"> Respiratory failure“COPD, Asphyxia etc” 	<ul style="list-style-type: none"> Describe blood gases changes Control of breathing 	Spirometer Blood gas analyzer		Biochemistry Medicine Obstetrics & Gynaecology

Continuous Assessment Card

Department of Physiology,-----Medical College

Student's Name.....Roll Number.....Session.....

Father's Name, Occupation, & Mailing Address.....

Mother's Name.....

Card 1 (General Physiology & Blood)

Sl. No.	Name of item	Full Marks	Marks Obtained	Remarks (signature & Date)
1.	Homeostasis-internal environment, control systems of the body, cell & the genes, second messengers, intercellular communications.	10		
2.	Excitable tissues, membrane potential, action potential, muscle contraction, membrane transport process.	10		
3.	Physiological normal values with range, SI & traditional units. Aging & anti aging, recent advances in physiology.	10		
4.	Composition & functions of blood, plasma proteins, immunoglobulins.	10		
5.	Erythrocytes, haemoglobin,, iron metabolism & red cell indices (PCV,MCV,MCH,MCHC)	10		
6.	Blood groups, blood & blood products transfusion, hazards of transfusion, Rh incompatibility.	10		
7.	Homeostasis, blood coagulation, platelet, BT, CT. Prothrombin time, purpura, haemophilia.	10		
8.	WBC-total & differential count, properties & function, Leucocytosis, leucopenia, T & B lymphocytes & immunity	10		
9.	Anemia- definition, haematological & etiological classification, jaundice.	10		

Card 2 (Cardiovascular system)

Sl. No.	Name of item	Full Marks	Marks Obtained	Remarks (signature & Date)
1.	Properties of cardiac muscle: Junctional tissues, generation & conduction of Cardiac impulse	10		
2.	Cardiac cycle- events, pressure & volume changes, heart sounds.	10		
3.	Heart rate- its regulation, pulse, 12 leads ECG.	10		
4.	Haemodynamics, cardiac output, venous return. physics of blood flow.	10		
5.	Blood pressure- definition types, measurement regulation.	10		
6.	Greater & lesser circulation, regional circulation. local blood flow, microcirculation.	10		
7.	Blood vessels- physiologic classification, innervation, vasoconstrictor & vasodilator agents.	10		
8.	Hypertension, heart block, compensatory reactions activated by hemorrhagic shock.	10		

Card 3 (Respiratory system)

Sl. No.	Name of item	Full Marks	Marks Obtained	Remarks (signature & Date)
1.	Internal & external respiration: abbreviations & terms used in respiration, mechanism of breathing, lung volumes & capacities, pulmonary & alveolar ventilations, dead space, pulmonary pressures.	10		
2.	Composition of air, Gaseous exchange, respiratory unit, respiratory membrane.	10		
3.	Oxygen carriage, oxy-hemoglobin dissociation curve & factors shifting the curve, Bohr effect.	10		
4.	Carbon dioxide carriage, chloride shift, Haldene effect.	10		
5.	Regulation of respiration-nervous & chemical, regulation during exercise.	10		
6.	Respiratory insufficiency-hypoxia, cyanosis, asphyxia, acclimatization.	10		
7.	Oxygen Therapy, artificial respiration.	10		
8.	Respiratory acidosis & alkalosis & its compensation	10		
9	Cardio-respiratory & other systemic changes during muscular exercise.	10		

Card 4 (Alimentary system)

Sl. No.	Name of item	Full Marks	Marks Obtained	Remarks (signature & Date)
1.	Saliva, deglutition, physiological apnoea.	10		
2.	Stomach, gastric juice, hydrochloric acid, emptying of stomach, H ₂ receptor blocker.	10		
3.	Pancreatic juice- composition, functions, bicarbonate & enzymes rich secretion.	10		
4.	Bile, composition, functions, Liver-functions, Liver function tests.	10		
5.	Succus entericus-composition, functions.	10		
6.	Local hormones of the Gastrointestinal tracts.	10		
7.	Digestion & absorption of carbohydrate, protein, fats, vitamins, water, dietary fibres.	10		
8.	Movements of Gastrointestinal tract, defecation reflex, diarrhoea.	10		

Card 5 (Endocrine system)

Sl. No.	Name of item	Full Marks	Marks Obtained	Remarks (signature & Date)
1.	Introduction – basic differences between nervous & endocrine control, basic mechanism of action of hormones, chemical nature of hormones, hypothalmo-hypophysial tract, RIA.	10		
2.	Anterior & posterior pituitary glands hormones, functions, gigantism, acromegaly, dwarfism.	10		
3.	Thyroid hormones- biosynthesis, transport, regulation of secretion, functions, hyper & hypothyroidism.	10		
4.	Parathormone, calcitonin, calcium metabolism, tetany (hypocalcemic & alkalemic).	10		
5.	Adrenocortical hormones, structure, functions, regulation of secretion, Cushing syndrome, Addisons disease, conns syndrome.	10		
6.	Endocrine pancreas, insulin, glucagon, diabetes mellitus, normal oral glucose tolerance curve.	10		

Card 6 (Reproductive System)

Sl. No.	Name of item	Full Marks	Marks Obtained	Remarks (signature & Date)
1.	Aim of reproduction, reproductive organs in male & female, sex determination & differentiation.	10		
2.	Ovarian cycle, hormones functions, menstrual cycle, ovulation, menarche, menopause	10		
3.	Physiology of pregnancy, placental hormones, functions, pregnancy test, neonatal physiology	10		
4.	Mamogenesis, hormones acting on breast, lactation.	10		
5.	Testicular hormones & their functions.	10		
6.	Puberty, male & female secondary sex characters	10		
7.	Spermatogenesis-steps, control, semen.	10		
8.	Male & female contraception (temporary & permanent)	10		

Card 7 (Renal physiology & Body fluid)

Sl. No.	Name of item	Full Marks	Marks Obtained	Remarks (signature & Date)
1.	Renal blood flow, JG complex, glomerular filtration-its dynamics. GFR-its measurement.	10		
2.	Renal tubular reabsorption & secretion, T _m & T _{mG} , renal threshold, plasma load & tubular load.	10		
3.	Countercurrent mechanism of urinary concentration.	10		
4.	Mechanism of acidification of urine.	10		
5.	Concept of plasma clearance value of a substance, osmolal & free water clearance, urea & creatinine clearance value (calculation of urea clearance)	10		
6.	Renal function test, composition of normal urine physiology of micturition.	10		
7.	Renal compensatory mechanism of acidosis & alkalosis	10		
8.	Body fluid compartment – values, measurement, water balance, uremia, edema.	10		

Card 8 (Nervous system & special senses)

Sl. No.	Name of item	Full Marks	Marks Obtained	Remarks & signature
1.	Introduction- example of nervous fibre, synapse, neurotransmitters, effects of nerve section	10		
2.	Sensory receptors- definition, classification, ascending tract, somatosensory cortex	10		
3.	Reflex- definition, arc, classification, motor, tracts, hemisection of spinal cord, features upper & lower motor neuron lesions.	10		
4.	Cerebellum-neuronal circuit, control of motor activity, cerebellar disorder, muscle spindle & tone.	10		
5.	Thalamus & hypothalamus- endocrine & vegetative functions, emotion, thirst, hunger, satiety.	10		
6.	Limbic system, emotion (cognition, conation, affection). Autonomic nervous system.	10		
7.	Reticular formation, sleep & awakefulness, Basal ganglia	10		
8.	Cerebral cortex- motor, sensory & intellectual function.	10		
9.	Cerebrospinal fluid blood brain barrier.	10		
10.	Refractive media, visual pathway, light reflexes-pathways, accommodation. reaction.	10		
11.	Physiology of hearing, auditory pathway.	10		
12.	Physiology of smell & taste, modalities of taste.	10		

Master card for annual & card completion examination on Physiology for individual students

Student's Name.....Roll Number.....Session.....

Father's Name, Occupation, & Mailing.....

Address.....

.....Mother's

Name.....

Components	Written		Oral		Practical		Remark(Signature & Date)
1. General Physiology & Blood	Full Marks	Marks obtained	Full Marks	Marks obtained	Full Marks	Marks obtained	
2. Cardiovascular System	100		100		100		
3. Respiratory System	100		100		100		
4. Gastrointestinal Physiology	100		100		100		
Annual Examination							
5. Renal Physiology & Body fluid	100		100		100		
6. Endocrine System	100		100		100		
7. Reproductive System	100		100		100		
8. Nervous system & Special Senses	100		100		100		
Grand total							

Attendance Record

Components	Total Class held	Total class attended	Percentage (attended/held)	Remarks (Signature & Date)
Lecture (120 hours)				
Tutorial (130 hours)				
Practical (130 hours)				
integrated Teaching (20 hours)				

Signature of the Department of Physiology

Department of Physiology, Medical College

Practical Physiology Card

(I hear and I forget, I see and remember, I do and I understand)

Student's Name..... Roll Number..... Session

Father's Name.....Occupation

Mother's Name.....

Mailing Address.....

	Name of experiment	Marks obtained %	Remarks.
1	Use of microscope, laboratory equipment. laboratory animals, blood sample, collection (venous & capillary blood)		
2	Preparation & staining of blood thin film & differential of WBC		
3	Determination of total count of WB C		
4	Determination total count of RBC		
5	Determination total of platelet		
6	Determination of circulating eosinophil		
7	Estimation of haemoglobin		
8	Determination of packed red cell volume (PVC), MCV, MCH, MCHC		
9	Estimation of ESR by Westergren method		
10	Determination bleeding time, clotting time, Prothrombin time		
11	Determination of osmotic fragility of RBC		
12	Determination ABO & Rh blood groups & cross matching		
13	Auscultation of 1 st & 2 nd heart sounds		
14	Study of effects of Stannius ligature on frog heart.		
15	Study of effects of atropine, adrenaline, acetylcholine on frog's heart.		
16	Clinical examination of radial pulse & radial pulse tracing.		
17	Measurement of normal blood pressure & effects of exercise, posture etc.		
18	Recording & analysis on 12 leads normal ECG		
19	Determination of exercise tolerance test (ETT)		
20	Determination of vital capacity(FVC, FEV ₁ , FEV ₁ /FVC %, PEFR, MVV		
21	Kymographic recording of respiratory movements & effects of breath holding, hyperventilation, speech, deglutition (physiological apnoea)		
22	Determination of BMR. respiratory exchange ratio		
23	Clinical examination human respiratory system		
24	Determination of artificial respiration.		
25	Auscultation of intestinal sound & inspection of visible peristalsis		
26	Kymographic demonstration of simple muscle curve, & studies on EMG		
27	Elicitation of knee jerk, ankle, biceps jerk. planter response		
28	Determination of non invasive assessment of autonomic nervous system		
29	Recording oral & axillary temperature & effects of exercise on it		
30	Mapping of visual field by perimetry		
31	Observation of light reflexes.		
32	Determination of colour vision		
33	Determination of visual acuity by Snellen's test letter sizes		
34	Determination of hearing tests		
35	Urinalysis for volume, specific gravity, reaction, glucose, albumin & normal urinary deposits.		
36	Determination of urea & creatinine clearance tests & water diuresis		
37	Determination of clinical interesting cases.		
38	Studies on oral glucose tolerance curve		
39	Urine for pregnancy test by Immunological method		
40	Determination of spermatozoa count, motility, morphology (human/bovine semen)		

BIOCHEMISTRY

Departmental Objective

At the end of the course in Biochemistry the students should be able to:

- Demonstrate basic knowledge on major biomolecules, enzymes, hormones and nutrients and of fundamental chemical principles involved in body mechanism upon which life process depends
- Demonstrate skills in performing and interpreting Bio-chemistry laboratory tests and procedures with emphasis on those used in Bangladesh
- Demonstrate skills in using the modern biochemical appliances
- Equip themselves with requisite knowledge for higher studies and research
- Develop sound attitude towards the need for continuing self education

BIOCHEMISTRY

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Biophysics and Biomolecules</i></p> <p>At the end of the course, students will be able to:</p> <ul style="list-style-type: none"> Define biochemistry and describe its scope, division and importance in medicine. Define solute, solvent, true solution, colloidal solution, normal solution, mole, molar and molal solution, osmole and osmolar solution, isotonic solution. Define colloids and crystalloids, give examples, describe properties and biomedical importance and explain nature of emulsion and suspension. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> Introduction to Biochemistry Concept of solutions Colloids and crystalloids Biomolecules: Carbohydrates Amino acids, proteins and nucleoproteins. Lipids Enzymes and coenzymes. PH Buffers 	<p>Lecture Tutorial Self-learning</p>	<ul style="list-style-type: none"> OHP Video tapes, TV, VCR, Audio player Slide Projector Charts, Flip charts, Models, Specimens White board and marker Chalk board and chalk Computer and multimedia Study guide and manuals 	<p>Lecture – 18 hours</p> <p>Tutorial – 16 hours</p> <p>Practical – 15 hours</p>	<p>During teaching through taking feed back, interactions and discussions; at the end of course through Card Completion Examination:</p> <ul style="list-style-type: none"> OSPE –50 Structured oral- 50 <p>Pass Marks –60</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Define and explain Law of mass action. Define pH and explain concept of $[H^+]$, pH scale and their importance. Define acid and bases, free acidity, titrable acidity, indicator and explain use and importance of indicator. Define and classify buffers. Explain mechanism and importance of buffering actions, buffering capacity and total buffer base. Describe Handerson Hasselbach equation, and its importance. Define carbohydrates, classify them and mention source and biomedical importance. Describe chemistry and properties of monosaccharides, disaccharides and polysaccharides. 					

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> • Define and classify amino acid, peptide, polypeptide and proteins and state their source, properties and functions. • Define nucleic acids and nucleotides and describe the composition of common nucleotides and state their properties, chemistry and function with special emphasis to RNA and DNA. • Define and classify lipids and state their source, properties, function and biomedical importance. • Define and classify fatty acids and state their source, properties, chemistry, function and biomedical importance. • Define essential fatty acids, mention their names, source and biomedical importance. • State the source, chemistry and biomedical importance of cholesterol. • Define and classify the lipoproteins and describe their biomedical importance. • Define and classify enzymes, state their properties and system of nomenclature. • Describe the factors affecting enzyme activity. 					

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> • Mention the isozymes and their clinical application. • Define and classify co-enzymes and co-factors & their functions. 	<p><u>Additional:</u></p> <ul style="list-style-type: none"> • Structure of proteins (level of organization) • Biological membrane. • Isotopes 				

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Hours days	Assessment
<p>Digestion Absorption, Bioenergetics and Metabolism</p> <p>Contents Teaching / Learning strategy Teaching Aids Hours / days Assessment</p> <p>At the end of the course Students will be able to:</p> <ul style="list-style-type: none"> Define metabolism, anabolism and catabolism and describe the phases of metabolism. Explain free energy exchange and energy carriers (high and low energy compounds). Explain Biological oxidation, respiratory chain and oxidative phosphorylation. <p>Carbohydrate Metabolism:</p> <ul style="list-style-type: none"> State the name and source of digestive enzymes and location and process of digestion and absorption of carbohydrate. State the anabolic and catabolic pathways of intermediary metabolism of carbohydrate. Define glycolysis, describe the pathway of glycolysis, conversion of pyruvate to lactate, acetyl Co A and oxaloacetate and Calculate the amount of energy liberated in glycolysis and oxidative decarboxylation. 	<p>CORE:</p> <p>Preliminary discussions:</p> <ul style="list-style-type: none"> Introduction to metabolism Free energy exchange, energy carriers (high and low energy compounds) Biological oxidation, respiratory chain and oxidative phosphorylation. <ul style="list-style-type: none"> Digestion and absorption Pathways of intermediary metabolism. Glycolysis Citric acid cycle Glycogenesis/glycogenolysis Hexose monophosphate shunt Gluconeogenesis Blood glucose homeostasis 	<p>Lecture Seminar Tutorial Practical</p>	<ul style="list-style-type: none"> OHP Video tapes, TV, VCR, Audio player Slide projector Charts, flip charts, Models, Specimens White board and marker Chalk board and chalks Computer and multimedia Study guide and manual 	<p>Lecture: 28 hours</p> <p>Tutorial: 25 hours</p> <p>Practical : 10 hours</p> <p>Seminar: 2 hours</p>	<p>During teaching through taking feed back, interactions and discussions; at the end of course through Card Completion Examination</p> <ul style="list-style-type: none"> OSPE 50 Structured Oral 50 marks Pass marks:60

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Describe Citric acid cycle and explain why it is called an amphibolic and final common metabolic pathway. Calculate the amount of energy liberated in TCA cycle and total energy liberated from complete breakdown of a emole of glucose in aerobic and in anaerobic conditions. Define glycogenesis and glycogenolysis and state their role in storage and supply of glucose to meet body's demand. Describe the HMS process and state its importance. Define gluconeogenesis and describe its process and importance. Describe why a static blood glucose requires to be maintained and explain the glucostatic function of liver. Describe how glucose homeostasis is done. 					

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Lipid Metabolism At the end of the course students will be able to :</p> <ul style="list-style-type: none"> State the name and source of digestive juices and location and process of digestion and absorption of lipids (triacylglycerol, phospholipids, cholesterol esters) Enumerate the blood lipids with their source and mention the anabolic and catabolic pathways of lipid metabolism. Describe the process of degradation of triacylglycerol. State the processes of fatty acid oxidation and describe beta-oxidation of even and odd chain fatty acids. Describe how excess fatty acids are channelled leading to ketogenesis and ketoacidosis with its consequences. Describe phenomenon, features and consequence of diabetic ketoacidosis. Enumerate the major lipids and lipoproteins in human plasma with their normal blood level and significance and metabolism. 	<p><u>CORE</u></p> <ul style="list-style-type: none"> Digestion and absorption Blood lipids and pathways of lipid metabolism. Triglyceride metabolism. Beta-oxidation and ketogenesis. Lipid transport and lipoprotein metabolism. Role of polyunsaturated fatty acids and eicosanoids. 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Describe role of polyunsaturated fatty acids, essential fatty acids and ecosanoids (PG, TX, LT) in body. Protein Metabolism <ul style="list-style-type: none"> State the name and source of digestive juices and location and process of digestion and absorption of proteins. State the concept of protein turnover, common amino acid pool, functions of amino acids, dynamic equilibrium, nitrogen balance and route of nitrogen loss. State anabolic and catabolic pathways of amino acids and proteins. Define deamination and transamination. 	<p><u>CORE</u></p> <ul style="list-style-type: none"> Digestion and absorption Protein turnover, common amino acid pool, nitrogen balance Pathways of protein metabolism Deamination and transamination Fate of amino acids in the body, Source and disposal of ammonia and urea cycle 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Describe the fate of amino acids including source of disposal of ammonia and also. Describe the urea cycle including location, raw materials and importance of the Cycle. <p>Role of liver in metabolism</p> <ul style="list-style-type: none"> State the functions of liver and its role in over all metabolism Describe the conditions associated with fatty liver. <p>Inorganic metabolism</p> <ul style="list-style-type: none"> Describe the process and importance of metabolism of some inorganic substances, viz. Iron, Iodine, Calcium and Phosphate. 	<ul style="list-style-type: none"> Role of liver in over all metabolism. Metabolism of iron, iodine, calcium and phosphate and Arsenic. 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>At the end of the course, the students will be able to:</p> <ul style="list-style-type: none"> Describe the process of control of gluconeogenesis and glycogenolysis. Explain the metabolic adjustment of fed state, fasting and starvation. 	<p>Additional:</p> <ul style="list-style-type: none"> Control of gluconeogenesis and lycogenolysis Metabolic adjustment of fed state, fasting and starvation. 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Body fluid, electrolyte and Acid-Base Balance</p> <p>At the end of the course, students will be able to :</p> <ul style="list-style-type: none"> State the body fluid compartments and describe the process of measuring their size. State the composition of (ECF) and (ICF) compartments. State the daily water turn over in normal person in different age groups including the route water intake and output. State the importance and mechanism of water balance. Explain the importance of major electrolytes (Na^+, K^+, Cl^-, HCO_3^-) and mechanism of their homeostasis. Explain the importance and mechanism of H^+ homeostasis. State the common acid base disorders, anion gap, causes of acidosis and alkalosis and mechanism of their compensation and correction. 	<p>CORE:</p> <ul style="list-style-type: none"> Total body water and body fluid compartments and measurement of their sizes. Composition of body fluids. Normal water balance and its regulation. Major electrolytes and their homeostasis. Hydrogen ion homeostasis. Renal chemistry in relation to water, electrolytes and acid base homeostasis. Renal function Tests. 	<p>Lecture Seminar Tutorial Practical</p>	<ul style="list-style-type: none"> OHP Video tapes, TV, VCR, Audio player. Slide projector Charts , Flip charts, Models, Specimens White board and marker Chalk board and chalks Computer and multimedia Study guide and manuals 	<p>Lecture: 14 hours</p> <p>Tutorial: 15 hours</p> <p>Practical: 10 hours</p> <p>Seminar: 2 hours</p>	<p>Formative: During teaching through taking feed back, interactions and discussions; at the end of course through Card Completion examination:</p> <ul style="list-style-type: none"> OSPE =50 Structured oral=50 Pass marks = 60

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> • State the role of kidneys in water, electrolyte and acid-base balance and the mechanism of urine formation. • State normal and abnormal constituents in urine, demonstrate the techniques for qualitative identification of the abnormal constituents and explain their significance. • State free water clearance, diuresis and phenomenon of water intoxication. • Mention the urinary buffers and mechanism of acidification of urine. • Mention the names and significance of different renal function tests. 					

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Clinical Endocrinology</p> <p>At the end of the course, the student will be able to:</p> <ul style="list-style-type: none"> • Explain the concept of cellular communication. • Classify hormones chemically and state their general mechanism of action, function and control of secretion. • Enumerate the thyroid hormones and state their synthesis, function, regulation of secretion and biomedical importance. • State the normal serum level of T3, T4 and TSH. • Describe the biochemical basis of thyroid functional disorders, viz. Graves disease, myxoedema, cretinism and goiter. • Mention the names and significance of thyroid function tests. • Explain the co-ordinated role of parathormone, thyrocalcitonin and vitamin D in calcium and phosphate metabolism and regulation of secretion. & related disorders. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> • Basic concepts of cellular communication, cytokines, hormones & neurotransmitter. • Thyroid hormones & disorders. • Parathyroid hormones, calcitonin & disorders. • Hormones of adrenal cortex & disorders. • Pancreatic hormones 	<p>Large Group Teaching: Lecture and Seminar</p>	<ul style="list-style-type: none"> • OHP • Video tapes, TV, VCR, Audio player. • Slide projector • Charts , Flip charts, Models, Specimens • White board and marker • Chalk board and chalks • Computer and multimedia • Study guide and manuals 	<p>Lecture: 10 hours</p> <p>Tutorial : 14 hours</p> <p>Seminar : 2 hours</p>	<p>Formative: During teaching through taking feed back, interactions and discussions; at the end of course through Card Completion examination:</p> <ul style="list-style-type: none"> • OSPE =50 • Structured oral=50 • Pass marks=60

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Describe the hormonal disorders of adrenal cortex, viz. Cushing's syndrome, hyperaldosteronism, Addison's disease, Conn's disease and Adrenogenital syndrome Mention the hormones liberated from endocrine pancreas with the name of specific source cells. State their function and biomedical importance & disorders. State the chemistry and biosynthesis of neurotransmitters & their functions. State the biosynthesis of catecholamines. 	<p><u>Additional:</u></p> <ul style="list-style-type: none"> Neurotransmitters Catecholamines. 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Food and Nutrition and vitamins</p> <p>At the end of the course, students will be able to:</p> <ul style="list-style-type: none"> Define and explain nutrients, essential nutrients, macro and micro nutrients, food, proximate principles of food, diet, balanced diet. State the full meaning of the abbreviations, MR, BMR, SDA, RQ and also define and explain them. Explain O₂ debt. Estimate the nutritional value of food and calculate its energy equivalent. Calculate the calorie demand of a person based on age, sex and work and suggest a balanced diet for him or her. Describe the source, requirement and function of carbohydrate and describe the importance of fibers in diet. Describe the source, requirement and function of proteins as nutrients; mention the name and significance of essential amino acid; state the biological value of protein and significance of the term 'first class protein'. Describe the source, requirement and function of lipids as nutrients. Mention the source and role of polyunsaturated fatty acids. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> Basic concepts of food, nutrition and dietary principles. Energy balance and calculation of energy equivalent of food. Nutritional aspect of carbohydrates, fats and proteins, Fibers. Vitamins. Common Nutritional disorders. 	<p>Large Group & Small Group Teaching: Lecture & Seminar</p>	<ul style="list-style-type: none"> OHP Video tapes, TV, VCR, Audio player. Slide projector Charts , Flip charts, Models, Specimens White board and marker Chalk board and chalks Computer and multimedia Study guide and manuals 	<p>Lecture: 10 hours</p> <p>Tutorial : 10 hours</p> <p>Seminar : 2 hours</p>	<p>During teaching through taking feed back, interactions and discussions; at the end of course through Card Completion examination:</p> <ul style="list-style-type: none"> OSPE =50 Structured oral=50 <p>Pass marks = 60</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Define and classify vitamins. Describe the source, chemistry, function, RDA, deficiency state of water soluble vitamins. Describe the source, chemistry, function, RDA, deficiency and hypervitaminosis states of fat soluble vitamins. State the role of minerals as nutrients and Describe the source, function, requirement and homeostasis of iron, sodium, potassium and chloride, calcium phosphate and iodine. State the importance of trace metals: zinc, copper, cobalt, manganese, etc. State and describe the phenomena of the common nutritional disorders in Bangladesh. 	<p>Additional:</p> <ul style="list-style-type: none"> Minerals. 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Fundamentals of Molecular Biology and Genetics</i></p> <p>At the end of the course, the student will be able to:</p> <ul style="list-style-type: none"> Explain the basic concepts of genetics. Describe the structure and functions of RNA and DNA. Describe the chromosome and its importance. Describe the processes of replication of DNA, transcription of genetic information and translation of genetic code. <p>At the end of the course, the students will be able to:</p> <ul style="list-style-type: none"> Explain the concepts of application of recombinant technology. Explain the concept of DNA cloning, PCR, Polymorphism. 	<p>CORE:</p> <ul style="list-style-type: none"> Basic concepts of genetics Structure and functions of RNA and DNA. Chromosome Replication of DNA, transcription of genetic information and translation of genetic code <p>Additional:</p> <ul style="list-style-type: none"> Application of recombinant DNA technology. DNA cloning, PCR, Polymorphism 	<p>Large Group Teaching: Lecture</p> <p>Small Group Teaching: Tutorial</p>	<ul style="list-style-type: none"> OHP Video tapes, TV, VCR, Audio player. Slide projector Charts, Flip charts, Models, Specimens White board and marker Chalk board and chalks Computer and multimedia Study guide and manuals 	<p>Lecture: 10 hours</p> <p>Tutorial : 10 hours</p>	<p>During teaching through taking feed back, interactions and discussions; at the end of course through Card Completion examination:</p> <ul style="list-style-type: none"> OSPE =50 Structured oral=50 <p>Pass marks = 60</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Clinical Biochemistry</p> <p>At the end of the course, the students will be able to:</p> <ul style="list-style-type: none"> • State the basic concepts of clinical biochemistry. • State the normal biochemical values of clinically important body fluid constituents. • State the types, properties and functions of plasma proteins • Explain the consequence of hypoalbuminemia. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> • Introduction to clinical biochemistry. • Normal biochemical values in conventional and SI. Units. • Biochemistry of coagulation and common laboratory tests of coagulation disorders. • Clinical enzymology related to liver and myocardial diseases. • Lipid profiles and dyslipoproteinemias. • Organ function tests • Diabetes mellitus • Bilirubin metabolism & Jundice. • CSF • Proteinuria & Oedema. 	<p>Large Group Teaching: Lecture and Seminar</p> <p>Small Group Teaching: Tutorial and Practical</p>	<ul style="list-style-type: none"> • OHP • Video tapes, TV, VCR, Audio player. • Slide projector • Charts , Flip charts, Models, Specimens • White board and marker • Chalk board and chalks • Computer and multimedia • Study guide and manuals 	<p>Lecture: 10 hours</p> <p>Tutorial : 10 hours</p> <p>Practical: 25 hours</p> <p>Seminar: 2 hours</p>	<p>During teaching through taking feed back, interactions and discussions; at the end of course through Card Completion examination:</p> <ul style="list-style-type: none"> • OSPE =50 • Structured oral=50 <p>Pass marks = 60</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> State the normal level of serum bilirubin and mechanism of causation of jaundice Describe the common liver function tests associated with jaundice. State the normal biochemistry of coagulation Describe common laboratory tests of coagulation disorders. State the enzymatic tests related to liver and myocardial diseases and explain their significance. State the normal lipid profiles and explain the basis of conditions related to dyslipoproteinemias. 					

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>At the end of the course, students will be able to :</p> <ul style="list-style-type: none"> Explain the basis of application of clinical enzymology in the investigation of bone disease and malignancy. State the chemistry and clinical correlation of pleural and peritoneal fluid. 	<p><u>Additional:</u></p> <ul style="list-style-type: none"> Clinical enzymology related to bone disease and malignancy Chemistry and clinical correlation of pleural and peritoneal fluid 				

Biochemistry Practical

Learning Objectives	Contents	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Do some basic techniques of Biochemistry Lab Use laboratory tools for preparing solution, reagents & for demonstrating techniques Outline the preparation of different tests, Interpret & know how to apply the techniques in clinical situations Estimate & interpret biochemical values to apply in clinical situation 	<p><u>CORE</u></p> <ul style="list-style-type: none"> Laboratory safety: Identification of laboratory glass wares and equipment. Preparation of solutions. Photometry. <p>Estimation, demonstration of technique, calculation & interpretation of result:</p> <ul style="list-style-type: none"> Serum cholesterol Blood Urea, Blood sugar. Normal and abnormal constitution of urine clinical significance. Renal function tests S. Urea, S. creatinine. Serum total protein – albumin, globulin and A/G ratio Serum bilirubin ALT, AST, and ALP 			

Evaluation of Biochemistry

Summative Assessment (1st Professional Examination)

Components	Marks	Total Marks
Formative assessment	10+10	20
WRITTEN EXAMINATION Paper – I- MCQ SAQ Paper - II- MCQ SAQ	20 70 20 70	180
PRACTICAL EXAMINATION OSPE Traditional methods Practical Note Book	50 40 10	100
ORAL EXAMINATION (Structured)		100
Grand Total		400

- There will be separate Answer Script for MCQ
- Pass marks 60 % in each of theoretical, oral and practical

Continuous Assessment Card
Card No. 1 - General Biochemistry (Biophysics & Biomolecules)

No.	Items	Marks	Initials & date
1.	Acid, Base, Salt, pH, Buffer, Law of Mass Action, Henderson Hesselbalch Equation. Gibbs-Donnan Equilibrium		
2.	Diffusion, Osmosis, Dialysis & Isotopes		
3.	Solution, Colloid & Crystalloid.		
4.	Chemistry of Carbohydrate.		
5.	Chemistry of Lipid.		
6.	Chemistry of Amino Acid & Protein.		
7.	Enzyme.		

Continuous Assessment Card
Card No. 2 – Body fluid, electrolyte and acid-base balance.

No.	Items	Marks	Initials & date
1.	Body fluid, Electrolyte & Acid-base balance.		

Continuous Assessment Card
Card No. 3 – Digestion, Absorption, Nutrition & vitamins

No.	Items	Marks	Initials & date
1.	Secretion of digestive juices		
2.	Digestion, Absorption & Gastrointestinal hormones.		
3.	Function of liver & liver function tests		
4.	Diet, Essential Dietary components, Basis of prescribing a balanced diet.		
5.	Vitamins		
6.	Minerals		
7.	Nutritional disorders		

Continuous Assessment Card
Card No. 4 – Metabolism and Bioenergetics

No.	Items	Marks	Initials & date
1.	Metabolism of Carbohydrate		
2.	Metabolism of Lipid.		
3.	Metabolism of Protein		
4.	Biologic Oxidation		

Continuous Assessment Card

Card No. 5 – Fundamentals of molecular Biology, Genetics & clinical endocrinology.

Continuous Assessment Card

Card No. 6 – Clinical Biochemistry

Total Teaching Hours for Biochemistry

System	Lecture	Tutorial	Practical	Seminar
1. Biophysics and Biomolecules	18	16	15	0
2. Digestion Absorption, Bionergetics and Metabolism	28	25	10	2
3. Body Fluids, Electrolytes and Acid Base Balance	14	15	10	2
4. Clinical Endocrinology	10	14	00	2
5. Food, Nutrition & vitamins	10	10	00	2
6. Molecular Biology and genetics (Fundamentals)	10	10	00	0
7. Clinical Biochemistry	10	10	25	2
Total Teaching Hours: (270)	100	100	60	10

Academic Calendar for Biochemistry

First Term				
System(Two)	Lectures	Tutorials	Practical	Seminar
Biophysics and Biomolecules	18 hrs.	16 hrs.	15 hrs.	0 hrs.
	<u>14 hrs.</u>	<u>15 hrs.</u>	<u>10 hrs.</u>	<u>2 hrs.</u>
Body fluids, Electrolytes and Acid Base Balance	32 hrs.	31 hrs.	25 hrs.	2 hrs.

Second Term				
System(Two)	Lectures	Tutorials	Practical	Seminar
Absorption, Bioenergetics & Metabolism	28 hrs.	25 hrs.	10 hrs.	2 hrs.
Food and Nutrition	<u>10 hrs.</u>	<u>10 hrs.</u>	<u>00 hrs.</u>	<u>2 hrs.</u>
	38 hrs.	35 hrs.	10 hrs.	4 hrs.

Third Term				
System (Three)	Lectures	Tutorials	Practical	Seminar
Molecular Biology and Genetics	10 hrs.	10 hrs.	00 hrs.	00 hrs.
Clinical Biochemistry				
Clinical Endocrinology	10 hrs	10 hra	25 hrs	02 hrs
	<u>10 hrs.</u>	<u>14 hrs.</u>	<u>00 hrs.</u>	<u>02 hrs.</u>
	30 hrs.	34 hrs.	25 hrs.	04 hrs.

PATHOLOGY

Departmental Objective:

After completion of pathology course, undergraduate medical students will be able to:

- Explain basic mechanism of diseases: Etiology, Pathogenesis, Morphological changes with emphasis on common diseases prevalent in Bangladesh.
- Co-relate between clinical findings and pathological changes.
- Chalk out simple investigation plan for diagnosis and follow up of diseases.
- Interpret laboratory results and understand their implication.
- Develop attitude for further learning on the subject.

PATHOLOGY

[illegible]

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Inflammation and repair</p> <p>Student will be able to :</p> <ul style="list-style-type: none"> • Define inflammations • Describe the sequence of vascular changes • Define exudate • Describe mechanism of formation of cellular and fluid exudate. • Describe the acute inflammatory cells and their functions. • Name the various types of chemical mediators • Describe the role of different chemical mediators in inflammation • Describe morphological types of inflammation • Describe the local and general clinical features of acute inflammation • Explain the local and general body response in acute inflammation • Enlist the hazards and complications of acute inflammation. • Explain the various fates of acute inflammation 	<p><u>Acute Inflammation</u></p>	<p>Lecture Tutorial Demonstration</p>	<p>OHP, Slide Projector</p>	<p>3 hours</p>	<p>Oral = Item Examination Card Completion</p> <p>Written= Short essay type & MCQ</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Define chronic Inflammation Describe the characteristic features and types of chronic Inflammation Define granuloma Give a etiological classification of granuloma with example Describe the morphological features of tuberculourr granuloma Describe clinical implications of chronic inflammations. 	<u>Chronic Inflammation</u>	Lecture Tutorial Demonstration	OHP Slide Projector	2 hours	<p>Oral = Item Examination Card Completion</p> <p>Written= Short essay type & MCQ</p> <p>Practical= OSPE</p>
<p>Student will be able to:</p> <ul style="list-style-type: none"> Define healing, repair and regeneration Describe the mechanisms of primary and secondary wound healing Distinguish the differences between healing by first and secondary intention Enlist the local and general factors influencing healing Enlist the complications of wound healing 	<u>Healing and repair</u>	Lecture Tutorial Demonstration	OHP Slide Projector	2 hours	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Define oedema Classify oedema Describe the pathogenesis and mechanism of inflammatory and noninflammatory oedema Describe various types of clinical oedema a) Cardiac, b) Hepatic, c) Renal, d) Pulmonary, e) Nutritional Explain the clinical significance of oedema <p>Student will be able to:</p> <ul style="list-style-type: none"> Define hyperaemia and congestion Explain the mechanism of Hyperaemia and congestion Describe the tissue changes of passive venous congestion of liver and lung. <p>Student will be able to :</p> <ul style="list-style-type: none"> Define haemorrhage and describe different types of haemorrhage Describe effects of acute and chronic haemorrhage Describe compensatory mechanisms of acute haemorrhage Define shock Enlist the different types of shock Describe the pathophysiology of shock with its various stages. 	<ul style="list-style-type: none"> Clinical and haemodynamic disorder. <u>Oedema</u> 	Lecture Tutorial	OHP	2 hours	<p>Oral = Item Examination Card Completion</p> <p>Written= Short essay type & MCQ</p>
	<u>Hyperaemia and congestion</u>	Lecture Tutorial	OHP	1 hour	
	<u>Haemorrhage and shock</u>	Lecture Tutorial	OHP	1 hour	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Define thrombosis and thrombus Describe the pathogenesis of thrombosis Describe morphology of thrombus Describe the mechanism of thrombus formation in heart, arterial and venous system. Enlist the effects of thrombi Enlist the fate of a thrombus <p>Student will be able to:</p> <ul style="list-style-type: none"> Define embolism Enlist types of emboli Describe the pathogenesis of pulmonary and systemic embolism and their effects Enlist the fates of emboli <p>Student will be able to:</p> <ul style="list-style-type: none"> Define infarct and infarction Describe the pathogenesis of infarction Enlist different types and common sites of infarct Describe morphological changes and fate of an infarct Describe haematological and biochemical changes in myocardial infarction. 	Thrombosis	Lecture Tutorial	OHP	1 hour	<p>Oral = Item Examination Card Completion</p> <p>Written= Short essay type & MCQ</p>
	Embolism	Lecture Tutorial		1 hour	
	Infarct	Lecture Tutorial		1 hour	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to :</p> <ul style="list-style-type: none"> Define and briefly describe PEM, Kwashiorkor, Marasmus & vits deficiencies with their clinical consequence. <p>Student will be able to:</p> <ul style="list-style-type: none"> Define cellular adaptation Enlist the different types of cellular adaptations Describe the pathogenesis and morphological features of different types of cellular adaptations. <p>Student will be able to:</p> <ul style="list-style-type: none"> Define Neoplasia and different tumour like conditions Classify tumours Enlist the characteristics features of benign and malignant tumours Enlist the characteristic features of carcinoma and sarcoma Describe the mechanism of spread of malignant tumours Classify & enlist the different carcinogens. <p>(Continued)</p>	<ul style="list-style-type: none"> Nutritional Disorders Disorders of growth Neoplasia 	<p>Lecture Tutorial</p> <p>Lecture Tutorial</p> <p>Lecture Tutorial</p>	OHP	<p>2 hours</p> <p>2 hours</p> <p>8 hours 1 hours</p>	Oral Written

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Describe the parameters required for grading and staging of malignant tumours Describe the significance of grading and staging Enlist the precancerous conditions Explain the difference between invasive carcinoma, carcinoma in situ, locally malignant tumours, latent cancer and dormant cancer. Enlist clinical effects of neoplasia. Enlist the various methods in the laboratory for diagnosis of cancer. Describe briefly principles of histopathological examination, cytological examination, tumour markers and immunocyto/histochemistry. <p>Student will be able to:</p> <ul style="list-style-type: none"> Understand the basic concepts of inheritance. Classify the different genetic disorders. Name cytogenetic, Mendelian and multifactorial disorders Describe the basic mechanism of immunological disorders – Hypersensitivity, Autoimmune disease, Immunodeficiency. Describe & classify the diseases caused by environmental hazards. 		Lecture Tutorial	OHP		Oral Written
	<ul style="list-style-type: none"> Medical genetics 	Lecture Tutorial	OHP	2 hours	
	<ul style="list-style-type: none"> Immuno pathology 	Lecture Tutorial	OHP	2 hours	
	<ul style="list-style-type: none"> Environmental pathology 	Lecture Tutorial	OHP	1 hour	

General Pathology

Manual of practical classes

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> • handle a light microscope • prepare and maintain practical notebook and record book. • plan to send specimens from hospital to pathology laboratory (i.e. able to fill up a requisition form) • identify types and record amount of preservatives used for preservation of specimens. • learn the principles technique of specimen selection for sectioning and processing. • learn the principles of technique of tissue processing for microscopic examination <p>Student will be able to:</p> <ul style="list-style-type: none"> • identify tissue sections with features of acute Inflammation • Identify tissue sections with feature of chronic inflammation 	<p>CORE:</p> <p>Introduction:</p> <ul style="list-style-type: none"> • Record • Notebook • Microscope Use <p>Preservation and histological technique</p> <ul style="list-style-type: none"> • specimen selection • tissue processing 	Demonstration & Practical	Instruments Microscope	1 hour	Oral Practical OSPE
	<p>Inflammatory reactions/acute inflammation</p> <ul style="list-style-type: none"> • abscess • acute appendicitis • ulcers <p>c inflammation and granuloma</p> <ul style="list-style-type: none"> • tubercular lymphadenitis • chronic cholecystitis 	Demonstration & Practical	Instruments Microscope Museum Specimens	4 hours 8 hours	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Student will be able to: <ul style="list-style-type: none"> • identify granulation tissue (ulcer, sinus, fistula) & scar tissue on slides under Microscope. • identify tissue with fatty change under the microscope. • identify under microscope histopathological slides of tissue related to circulatory disturbance • identify slides of growth disorder under microscope 	Wound healing <ul style="list-style-type: none"> • granulation tissue • scar 	Demonstration & Practical	Instruments Microscope	2 hours	Practical OSPE
	Reversible injury <ul style="list-style-type: none"> • degenerative condition • fatty change 	Demonstration & Practical	Instruments Microscope	2 hours	
	Circulatory disturbance <ul style="list-style-type: none"> • congestion • edema • thrombosis • emboli • infarcts 	Demonstration & Practical	Instruments Microscope	4 hours	
	Growth disorder <ul style="list-style-type: none"> • atrophy • hypertrophy • hyperplasia • metaplasia • dysplasia 	Demonstration & Practical	Instruments Microscope	8 hours	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <p>identify on slides Benign neoplastic conditions</p> <p>identify on slides Malignant neoplastic conditions</p> <ul style="list-style-type: none"> identify different types of material suitable for cytological examination identify different types of stains used for cytological examination. Methods for collection, preservation and sending cytopathological specimen Examination and findings in sputum, cervical smears, body cavity fluids, FNAC of common organs. Record normal findings in sputum and interpret abnormal findings in different diseases (especially malignancy) 	<p>Neoplasia</p> <ul style="list-style-type: none"> Benign <ul style="list-style-type: none"> Fibroadenoma papilloma haemangioma leiomyoma Malignant tumour <ul style="list-style-type: none"> adenocarcinoma squamous cell carcinoma Osteosarcoma basal cell carcinoma NHL Giant cell tumour Bone Cytopathology 	Demonstration & Practical	Instruments Microscope Slides	16 hours	Oral Practical OSPE
		Demonstration & Practical	Instruments Microscope Slides	3 hours	Oral Practical OSPE

* One hour examination

Tutorial & Practical Clinical Pathology

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Describe different branches, outline the role and importance of clinical pathology in diagnosing various diseases. Perform routine examination of urine Outline the importance of physical examination of urine and interpret abnormal findings Describe the importance of chemical examination and interpret abnormal findings. Detect pathological conditions of Urine including: <ul style="list-style-type: none"> □ Proteinuria □ Glycosuria Describe the importance of microscope examination of urine and interpret abnormal findings. List the normal findings of CSF and other body fluid. Describe the findings of CSF and other body fluid in different diseases. Describe the normal findings of semen and interpret the findings of semen in case of infertility. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> Introduction and scope of clinical pathology. Examination of urine Examination of CSF and other body fluids Semen analysis 	<p>Tutorial Lecture</p> <p>Practical Tutorial Lecture</p> <p>Practical Tutorial Lecture</p>	<p>OHP Transperancy</p>	<p>1 hour</p> <p>4 hours</p> <p>3 hours</p> <p>1 hour</p>	<p>written</p> <p>Practical OSPE Written</p> <p>Practical OSPE Written</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Record the normal blood sugar level and explain GTT curve Enlist the renal function tests and interpret findings. Record normal lipid profile and interpret its abnormality Enlist and interpret the liver function tests 	<ul style="list-style-type: none"> Blood sugar and Glucose Tolerance Test (GTT) Blood urea & creatinine Serum cholesterol & lipid profile Serum bilirubin and LFT 	Tutorial Lecture		<p>3 hours</p> <p>3 hours</p> <p>2 hours</p> <p>3 hours</p>	Written

***One hour examination**

Class Performance Record Card

<i>Sl.</i>	<i>Items</i>	<i>Full marks</i>	<i>Marks scored</i>	<i>Signature/Remarks</i>
<i>General Pathology</i>				
1.	Introduction, Sample collection, Note book			
2.	Preservation and fixation of tissue, histological techniques.			
3.	Cell injury: Reversible, irreversible injury and cell necrosis			
4.	Cellular adaptation			
5.	Acute inflammation			
6.	Chronic inflammation and Granuloma			
7.	Healing, Repair and Regeneration			
8.	Hyperaemia, Congestion, Oedema & Shock			
9.	Thrombosis and Embolism			
10.	Infarction			
11.	Neoplasm: Definition, Nomenclature, Character, Spread			
12.	Benign tumour and tumour like conditions: Fibroadenoma, Leiomyoma, Haemangioma, Papilloma, Lipoma, fibroma.			
13.	Malignant tumour: Squamous cell carcinoma, Basal cell carcinoma, Adenocarcinoma, Malignant melanoma, Sarcoma			
14.	Carcinogens: Chemical, Physical, Viral and Genetic factors.			
15.	Nutritional Disorder: Fat soluble and water-soluble vit. deficiency.			
16.	Environmental Pathology: Pneumoconiosis, Smoking, Industrial and radiation hazards.			
17.	Autoimmune diseases: Tolerance, Mechanism of Autoimmune disease example e.g. SLE, R.A.			
18.	Immune Deficiency states, AIDS			
19.	Hypersensitivity			
20.	Outline of genetic diseases			
21.	Common diseases of childhood			
22.	An outline of organ transplantation			

Class Performance Record Card

<i>Sl.</i>	<i>Items</i>	<i>Full marks</i>	<i>Marks scored</i>	<i>Signature/Remarks</i>
<i>Systemic Pathology</i>				
1.	Diseases of blood vessels			
2.	Diseases of the heart			
3.	Diseases of the Lymph node and Spleen			
4.	Pneumonia, Tuberculosis, COPD			
5.	Tumours of the respiratory system.			
6.	Oral and Salivary Gland lesions			
7.	Diseases of the Gastrointestinal Tract			
8.	Diseases of the hepatobiliary system			
9.	Diseases of the male genital system			
10.	Diseases of the female genital system and placenta			
11.	Diseases of Breast			
12.	Diseases of Urinary System.			
13.	Diseases of Endocrine System.			
14.	Diseases of Bone.			
15.	Joint and Muscle diseases.			
16.	Common Skin diseases.			
17.	Diseases of Nervous system.			
18.	Eye and ENT diseases			
19.	Forensic Pathology- outline			

Class Performance Record Card

<i>Sl.</i>	<i>Items</i>	<i>Full marks</i>	<i>Marks scored</i>	<i>Signature / Remarks</i>
<i>Haematology</i>				
1.	Introduction: Anticoagulants and collection of blood.			
2.	Estimation of Haemoglobin.			
3.	Total count of RBC, WBC, and Plateletes.			
4.	Total circulating eosinophil count, Determination of PCV, Reticulocyte count and absolute values			
5.	Determination of ESR			
6.	Blood film: Preparation, Staining and Interpretation.			
7.	Anaemia: Classification and Iron deficiency anaemia.			
8.	Haemolytic anaemia.			
9.	Megaloblastic anaemia.			
10.	Normocytic Normochromic anaemia.			
11.	Pancytopenia / Aplastic anaemia			
12.	Leucocytosis, Neutrophilia, Lymphocytosis, Eosinophilia, Leucopenia, Leukaemoid reaction.			
13.	Leukaemia.			
14.	Bleeding disorder, Vascular and platelet defects.			
15.	Coagulation disorders.			
16.	Bone marrow study			
17.	Blood grouping, Cross matching and blood transfusion.			
18.	An out line of marrow transplantation.			

Class Performance Record Card

<i>Sl.</i>	<i>Items</i>	<i>Full marks</i>	<i>Marks scored</i>	<i>Signature/Remarks</i>
<i>Clinical and Chemical Pathology</i>				
1.	Introduction: Normal values.			
2.	Examination of urine, Interpretation of UTI, Pyelonephritis, Nephritic and Nephrotic syndrome.			
3.	Examination of CSF.			
4.	Examination of Ascitic, Pleural and Synovial fluid.			
5.	Semen analysis.			
6.	Determination of Blood sugar, GTT and Diabetes mellitus.			
7.	Determination of Blood Urea, Creatinine and Renal function tests.			
8.	Investigations of Hepatic failure and liver function test.			
9.	Determination of Serum Cholesterol and Lipid Profile.			
10.	Electrolyte disorders with acidosis and Alkalosis.			

Systemic Pathology

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to :</p> <ul style="list-style-type: none"> Define arteriosclerosis and atherosclerosis List the risk factors and discuss the pathogenesis of atherosclerosis Enlist the sites of involvement of atherosclerosis. Describe the complications of atherosclerosis. Define ischaemic heart disease and state the types. Describe the pathogenesis of ischaemic heart disease. Describe the morphological features of myocardial infarction. Describe the haematological and biochemical changes in myocardial infarction. Define rheumatic heart disease. Describe the pathogenesis and morphology of rheumatic heart disease. Define infective endocarditis. Define the aetiology and types of infective endocarditis. Define hypertension and list the causes of essential and secondary hypertension. Discuss the pathogenesis and describe the vascular changes in hypertension. 	<p><i>Cardiovascular System</i></p> <p><u>CORE:</u></p> <ul style="list-style-type: none"> Vascular diseases atherosclerosis Ischaemic heart disease Rheumatic heart disease Pathogenesis and Morphology Infective endocarditis. Hypertension and hypertensive heart diseases <p><u>Additional:</u></p> <ul style="list-style-type: none"> Congenital heart disease Pericarditis Cardiomyopathy 	<p>Lecture Tutorials</p> <p>Practical</p>	<p>OHP Specimen</p> <p>Specimen Slide Microscope</p>	<p>4 hours</p> <p>4 hours</p>	<p>Oral Written</p> <p>Practical</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Name of common inflammatory lung diseases. Define and describe the different types of pneumonia, tuberculosis and lung abscess. Enlist the causes and describe the pathogenesis of pneumonia, tuberculosis and lung abscess. Describe the morphology and enlist the complication of pneumonia, tuberculosis and lung abscess. Appreciate the clinical course and correlate it with the morphological features. Name and define the different types of chronic obstructive airway diseases. Describe the pathogenesis, morphological and clinical features of COPD. Classification lung tumours and describe aetiology and pathogenesis. Describe the morphological features and clinical course of common lung tumour. List the causes of pleuritis and describe the various types of pleural effusion. <p>Student will be able to:</p> <ul style="list-style-type: none"> List the causes of lymphadenitis and describe the morphological features. Classify Hodgkin and non-Hodgkin lymphomas. Describe the morphological features of Hodgkin's and non-Hodgkin lymphoma and correlate with clinical course. 	<p>Respiratory System</p> <p>CORE:</p> <p>Inflammatory disease:</p> <ul style="list-style-type: none"> Pneumonia Tuberculosis Lung abscess. <p>Chronic obstructive airway diseases (COPD):</p> <ul style="list-style-type: none"> Bronchitis Bronchiectasis Bronchial asthma Emphysema. <p>Tumour:</p> <ul style="list-style-type: none"> Classification Common tumour <p>Pleuritis and pleural effusion</p> <p>Additional:</p> <ul style="list-style-type: none"> Acute respiratory distress syndrome (ARDS) Diffuse intestinal lung disease 	Lecture Tutorials	OHP Specimen	4 hours	Oral Written
		Practical	Slide Microscope Specimen X-ray/Other imaging allied	5 hours	
				3 hours	
	<p>Lymphoreticular System</p> <p>CORE:</p> <ul style="list-style-type: none"> Lymphadenitis Lymphoma and secondary tumour <p>Additional:</p> <ul style="list-style-type: none"> Splenomegaly 	Practical	Slide Microscope Specimen X-ray	3 hours	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Define and list the causes of oral ulcer and leucoplakia List the precancerous, benign and malignant tumour of the oral cavity and identify the predisposing factors. Classify histologically benign and malignant tumours of salivary glands. List the tumours of oesophagus and describe their morphological features. List the causes of acute and chronic gastritis. Define peptic ulcer and describe its pathogenesis, morphological features and clinical course. List the various types of benign and malignant tumours of stomach and identify the predisposing factors for gastric carcinoma. List the causes of acute appendicitis describe the morphological features and correlate with its clinical course. Name ulcero inflam matory diseases involving intestine. Differentiate betrlen ulcerative colitis and crohin's disease. List the different types of polyp, benign and malignant tumour of intestine. 	<p>Gastrointestinal Tract</p> <p><u>CORE:</u></p> <p>Oral cavity:</p> <ul style="list-style-type: none"> Ulcer Leucoplakia Carcinoma <p>Salivary glands:</p> <ul style="list-style-type: none"> Tumour <p>Oesophagus</p> <ul style="list-style-type: none"> Oesophagitis Tumour <p>Stomach:</p> <ul style="list-style-type: none"> Peptic Ulcer Gastritis Tumours <p>Small large intestine and appendix:</p> <ul style="list-style-type: none"> Inflammatory diseases tumour Tumours <p><u>Additional:</u></p> <ul style="list-style-type: none"> Pancreatitis. Pancreatic tumour. Malabsorption. Diseases of peritoneum 	<p>Lecture Tutorial</p> <p>Practical</p>	<p>OHP Transparency</p> <p>Slide Microscope Specimen</p>	<p>4 hours</p> <p>6 hours</p>	<p>Written Oral</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> List the causes of hepatitis. Describe the various types of viral hepatitis, explain their modes of transmission and state their clinical outcome. List the causes and describe the morphological features of liver abscess. List the causes and the pathogenesis and complications of cirrhosis. Describe the morphology of cirrhosis and correlate it with clinical features. List the different types of benign and malignant tumours of liver and describe briefly epidemiology. Identify the risk factors, describe the pathogenesis, morphological features and complications of cholelithiasis. List tumours of gall bladder. 	<p><i>Liver and Biliary System</i></p> <p><u>CORE:</u></p> <ul style="list-style-type: none"> Hepatitis. Liver abscess Cirrhosis of liver Tumours of liver Diseases of the gallbladder <ul style="list-style-type: none"> Cholelithiasis Cholecystitis Carcinoma <p><u>Additional:</u></p> <ul style="list-style-type: none"> Hepatic failure 	<p>Lecture Tutorial</p> <p>Practical</p>	<p>OHP Specimen</p> <p>Slide Microscope Specimen</p>	<p>4 hours</p> <p>4 hours</p>	<p>Oral Written</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to :</p> <ul style="list-style-type: none"> Classify glomerular diseases. List clinical manifestations of renal diseases. Describe briefly aetiology, pathogenesis and clinical course of acute and chronic glomerulonephritis. Define nephrotic syndrome, list its causes and describe the pathophysiology. Define pyelonephritis, list the causes, describe the morphological features, and clinical course of acute and chronic pyelonephritis. Define and list the causes of acute renal failure and discuss briefly its clinical course. List the different types of renal tumours and discuss briefly the morphological features. Discuss briefly uropathy and renal calculi. Discuss briefly different types of cystitis. List the different types of urinary bladder tumour, discuss briefly its pathogenesis and morphological features. 	<p>Urinary System</p> <p><u>CORE:</u></p> <ul style="list-style-type: none"> Disease of glomerulus, nephrotic syndrome. Pyelonephritis. Renal failure Renal tumours Nephrolithiasis and obstructive uropathy Urinary bladder cystitis and tumour. <p><u>Additional:</u></p> <ul style="list-style-type: none"> Renal malformation 	Lecture Tutorial	OHP Specimen	5 hours	Oral Written

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Describe types and causes of prostatitis. Outline epidemiology, pathogenesis and morphological features of nodular hyperplasia. Describe types of pathology and methods of diagnosis of prostatic carcinoma List the causes of orchitis and epididymitis. Classify testicular tumours Describe their morphological features and prognosis. 	<p>Male genital system</p> <p>CORE:</p> <ul style="list-style-type: none"> Prostate Prostatitis Nodular – hyperplasia Prostatic carcinoma Testis and epididymis Epididymo- orchitis Tumours 	<p>Lecture Tutorial</p> <p>Practical Tutorial</p>	<p>OHP Specimen</p> <p>Slide Microscope Specimen</p>	<p>2 hours</p> <p>3 hours</p>	<p>Oral Written</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> List the causes of cervicitis and discuss briefly non-neoplastic lesions of cervix. Identify the risk factor for cervical carcinoma, discuss briefly the precancerous, and cancerous lesions of cervix and methods of diagnosis. List the causes of endometriosis and discuss briefly neoplastic and non-neoplastic lesions of uterus. Name the non-neoplastic cysts of ovary. Describe ovarian tumours and describe briefly morphological features and clinical course of common tumour. List the gestational trophoblastic tumours, name the type of Hydatidiform mole, describe the morphological features and methods of diagnosis of hydatidiform mole. Identify the predisposing factors and discuss the morphological changes and prognosis of Choriocarcinoma. 	<p>Female Genital System</p> <p>CORE:</p> <ul style="list-style-type: none"> Diseases of uterus Inflammations and tumour of cervix Inflammation and tumour of uterus Endometriosis, DUB Disease of ovary Non-neoplastic cysts Tumour Trophoblastic disease Hydatidiform mole Choriocarcinoma <p>Additional:</p> <ul style="list-style-type: none"> Pelvic inflammatory diseases (PID) Genital tuberculosis 	<p>Lecture Tutorial</p> <p>Practical Tutorial</p>	<p>OHP Transparency Specimen</p> <p>Slide Microscope Specimen</p>	<p>4 hours</p> <p>4 hours</p>	<p>Oral Written</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> List the inflammatory diseases of breast. Describe in brief the epidemiology, types and biological importance of fibrocystic disease. List the benign and malignant tumours of breast, classify malignant breast tumour and discuss the risk factors. List the causes of thyroiditis and describe briefly Hashimotos thyroiditis. Discuss briefly the pathogenesis and clinical course of diffuse and multinodular goitre. Describe the morphological features of goitre. Enlist the benign and malignant tumours of thyroid. Describe the morphological features of papillary, follicular carcinoma and the prognosis of thyroid tumours. 	<p>Diseases of Breast</p> <p>CORE:</p> <ul style="list-style-type: none"> Inflammatory disease Fibrocystic disease Tumours Disease of Endocrine system <ul style="list-style-type: none"> Iodine deficiency goitre. Autoimmune thyroiditis. Thyrotoxicosis. Myxoedema <p>Additional:</p> <ul style="list-style-type: none"> Pituitary tumours Adrenal disease Parathyroid 	<p>Lecture Tutorial</p> <p>Practical Tutorial</p> <p>Lecture Tutorial</p> <p>Practical Tutorial</p>	<p>OHP Transparency</p> <p>Slide Specimen</p> <p>OHP Training</p>	<p>2 hours</p> <p>2 hours</p> <p>2 hours</p> <p>3 hours</p>	<p>Oral Written</p>
<p>Student will be able to:</p> <ul style="list-style-type: none"> Terms used in dermatology List common ppapulo-squamous and visicobullous deseases of skin. list the benign, premalignant and malignant epidermal tumours describe briefly the morphological features of squamous cell carcinoma, basal cell carcinoma, malignant melanoma 	<p>Tumour of skin</p>	<p>Lecture Tutorial</p> <p>Practical</p>	<p>OHP Transparency</p> <p>Slide Microscope</p>	<p>2 hours</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> List the course of acute and chronic meningitis and encephalitis and describe CSF findings in different types of meningitis. Enlist the benign and malignant tumours of central nervous system and peripheral nerve sheath 	<p>Nervous System</p> <p>CORE:</p> <ul style="list-style-type: none"> Meningitis Encephalitis Tumour <p>Additional:</p> <ul style="list-style-type: none"> Cerebrovascular diseases (CVD) 	<p>Lecture Tutorial</p> <p>Practical</p>	<p>OHP Specimen</p>	<p>2 hours</p> <p>1 hour</p>	<p>Oral Written</p>
<p>Student will be able to:</p> <ul style="list-style-type: none"> Enlist the tumours of eye Enlist the tumours of Nasal Cavity Classify the tumours of soft tissue Describe sinusitis/ otitis media 	<p>Diseases of Eye and ENT</p> <p>CORE:</p> <ul style="list-style-type: none"> Tumours of the eye Tumours of Nasal cavity Diseases of Soft tissue & Bone <ul style="list-style-type: none"> Inflammation Tumour <p>Additional:</p> <p>Inflammatory disease of ear and sinuses:</p> <ul style="list-style-type: none"> Otitis media Sinusitis <p>Inflammations:</p> <ul style="list-style-type: none"> Bacterial Viral Fungal <p><i>Disease of Muscule</i></p>	<p>Lecture Tutorial Practical</p> <p>Lecture</p> <p>Practical</p>	<p>OHP Specimen Slide etc.</p> <p>OHP</p> <p>Slide specimen</p> <p>Lecture Tutorial Practical</p>	<p>1 hour</p> <p>2 hours</p> <p>1 hour</p> <p>2 hours</p> <p>1 hour</p> <p>1 hour</p>	<p>Oral Written</p>

Haematology

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Describe main findings in a peripheral blood film. State the indications of bone marrow examinations and describe normal bone marrow findings. State normal haemoglobin level with age, sex, variations and red cell indices (MCV, MCH, MCHC) Define and classify anaemia based on morphology and aetiology List the causes of iron deficiency anaemia and state the laboratory investigations. List the causes of megaloblastic anaemia and other conditions that leads to macrocytosis. Describe laboratory investigations for megaloblastic anaemia Give a classification for haemolytic anaemia. Describe findings on peripheral blood film and list further investigations to identify its aetiology. 	<p>CORE:</p> <p>Introduction</p> <ul style="list-style-type: none"> Blood film Bone marrow 	Lecture Tutorial	OHP Slide projector	1 hour	Oral Written
	<p>Anaemia</p> <ul style="list-style-type: none"> Definition, Classification 	Lecture Tutorial		1 hour	
	<ul style="list-style-type: none"> Deficiency anaemia <ul style="list-style-type: none"> Iron deficiency anaemia Vit B₁₂ and folic acid deficiency anaemia (Megaloblastic anaemia) 			2 hours	
	<ul style="list-style-type: none"> Haemolytic anaemia 			1 hour	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Name different types of haemoglobino-pathies and thalassaemia Pathogenesis of sickle cell anaemia and thalassaemia. List the causes of pancytopenia and describe peripheral blood film findings and bonemarrow findings of aplastic anaemia. List the causes of haemorrhagic disorders and interpret its screening lists. Discuss in brief haemophilia and ITP Define leukaemia, classify leukaemia and describe peripheral blood film and bone marrow findings in different leukaemias. Leukaemoid reactions. Define polycythemia and classify it. Define paraproteinaemia and describe the laboratory investigations of multiple myeloma. 	<ul style="list-style-type: none"> Haemoglobino-pathies and thalassaemia Pancytopenia- aplastic anaemia. <p>Haemorrhage disorders:</p> <ul style="list-style-type: none"> Classification Laboratory diagnosis <p>Leukaemia:</p> <ul style="list-style-type: none"> Definition Classification Laboratory diagnosis <p>Myeloprolifrativ disorder:</p> <ul style="list-style-type: none"> Polycythemia <p>Paraproteinaemia</p> <ul style="list-style-type: none"> Multiple Myeloma 	Lecture Tutorial	OHP Slide projector	1 hour 1 hour 2 hours 2 hours 1 hour 1 hour	Oral Written

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
	<p><u>Additional:</u></p> <ul style="list-style-type: none"> • Essential nutrients for erythropoiesis. • The Causes of microcytic hypochromic anaemia. • Spherocytosis. • Immune haemolytic anaemia. • Haemolytic uraemia syndrome. • Miscellaneous: Anaemia due to infections, renal failure, chronic, liver disease, malignancy, collagen and endocrine disorders. • Myelodysplastic disorders. 	Lecture		1 hours	

Haematology Practical

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Identify the different anticoagulants and their uses. Record and maintain practical notebook. Collect blood sample and draw a blood film, stain it and identify the normal blood cells. Estimate Hb conc in blood. Calculate absolute values from PCV and diagnose morphological types of different anaemia. Do total count of WBC and DC of WBC Differentiate leukaemia and leukaemoid reaction from laboratory investigations of a patient. Do bleeding time & clotting time. Identify the cells of normal bone marrow under microscope 	<p>CORE:</p> <p>Introduction:</p> <ul style="list-style-type: none"> Different blood cells Collection of blood samples for haematological investigations and their transportation to laboratory. Blood film staining Different haematological investigations Practical note book. <p>Estimation:</p> <ul style="list-style-type: none"> Hb PCV Calculation of absolute values RBC ESR <p>Total and differential count of WBC</p> <ul style="list-style-type: none"> Peripheral blood film preparation with staining Pancytopenia circulating eosinophil count Platelet count <p>Leukaemia</p> <ul style="list-style-type: none"> Prothrombin time <p>Bleeding time, Clotting time</p> <p>Normal bone marrow</p> <p>Blood grouping and cross matching</p>	Practical	Microscope Sample/ Specimen	6 hours	Practical Observation with checklist OSPE
		Practical	Microscope Sample/ Specimen	4 hours	
		Practical	Microscope Sample/ Specimen	6 hours	
				6 hours	
				4 hours	
				2 hours	
				2 hours	

*One hour for examination

Chemical Pathology

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Outline the spectrum of clinical chemistry. Explain relationship of biochemical changes with different diseases. Describe units of measurement. 	<p>CORE:</p> <ul style="list-style-type: none"> Introduction to clinical chemistry Biochemical abnormalities in different disorders and the units of measurement. Disorders of carbohydrate metabolism: <ul style="list-style-type: none"> Hyperglycaemia hypoglycaemia. Diabetes mellitus laboratory diagnosis Disorders of lipid metabolism Renal function tests Jaundice and liver function tests. Disorders of fluid and electrolyte balance 	<p>Lecture Tutorial</p>	<p>OHP Transparency</p>	1 hours	<p>Oral Written</p>
<p>Students will be able to:</p> <ul style="list-style-type: none"> Describe clinical manifestation in hyper and hypoglycaemia. List blood sugar levels in different conditions, draw and interpret GTT. 				2 hours	
<p>Students will be able to:</p> <ul style="list-style-type: none"> List the laboratory investigations required to diagnose diabetes mellitus and describe the complications of Diabetes mellitus. 				2 hours	
<ul style="list-style-type: none"> Explain lipid profile in a healthy subject. Describe the disorders of lipid metabolism. Describe the different renal function test and give the normal values and interpret the abnormal findings. 				2 hours	
<ul style="list-style-type: none"> Define jaundice compare and contrast different types of jaundice. Describe the different liver function test and interpret the abnormal values. 				2 hours	
<ul style="list-style-type: none"> Describe aetiology of metabolic acidosis and alkalosis and respiratory acidosis and alkalosis. Mention the biochemical changes in different electrolyte imbalance. 		Practical Tutorial	Laboratory instruments	1 hour 4 hours	

Consolidated Teaching Hours in Pathology
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<i>Subject</i>	<i>Lecture Plus Tutorial</i>	<i>Practical Plus Tutorial</i>	<i>Total Hours</i>
General Pathology	35	48	83
Systemic Pathology	40	48	88
Haematology	15	30	45
Clinical Pathology	05	20	20
Chemical Pathology	05	04	14
Total	100	150	250

Integrated teaching

Learning Objective in general	Topics	Teaching / Learning Strategy	Teaching Aids	Department
<input type="checkbox"/> Able to describe etiology & pathogenesis and in morphological changes <input type="checkbox"/> To correlate clinical findings with pathological changes <input type="checkbox"/> To plan and suggest investigation appropriate and relevant investigation <input type="checkbox"/> To be able to interpret scientifically the laboratory results <input type="checkbox"/> To develop attitude for further learning of the topic	<input type="checkbox"/> Diabetes Mellitus <input type="checkbox"/> Tuberculosis <input type="checkbox"/> Lump breast <input type="checkbox"/> Lymphadenopathy <input type="checkbox"/> Hepato Splenomegaly. <input type="checkbox"/> Jaundice etc. <input type="checkbox"/> Ca cervix ovarian tumour	<input type="checkbox"/> Symposium, Case presentation <input type="checkbox"/> Symposium, Case presentation <input type="checkbox"/> Case presentation <input type="checkbox"/> Symposium, Case presentation <input type="checkbox"/> Symposium, Case presentation <input type="checkbox"/> Symposium, Case presentation <input type="checkbox"/> Symposium, Case presentation	<input type="checkbox"/> Patient, Chart, OHP, Investigation result <input type="checkbox"/> Patient, Chart, Investigation result <input type="checkbox"/> Patient, Specimens, Histopathology, Slide(projector), OHP <input type="checkbox"/> Patient, Specimen, Histopathology, Slide Projector <input type="checkbox"/> Patient, Histology slides <input type="checkbox"/> Patient investigation reports <input type="checkbox"/> Patient Histopathology slides	<input type="checkbox"/> Pathology, Medicine, Surgery <input type="checkbox"/> Pathology, Medicine, Pharmacology, Microbiology <input type="checkbox"/> Pathology, Surgery <input type="checkbox"/> Pathology, Surgery, Medicine <input type="checkbox"/> Pathology, Medicine, Surgery, Physiology & Biochemistry <input type="checkbox"/> Pathology, Medicine, Surgery <input type="checkbox"/> Pathology, Obs. & Gynae.

Pathology

Teaching & Learning Methods	Teaching Aids
<ul style="list-style-type: none">• Lecture• Tutorial• Practical• Demonstration• Clinicopathological seminar & symposium	<ul style="list-style-type: none">• Board & chalk• Overhead projector (OHP)• Slide projector• Projecting Microscope• T.V/ VCR• Models• Specimen• Instruments• Multimedia

PATHOLOGY

Academic Calendar-2 Calendar years for 3 rd & 4 th MBBS						
1 st Term 20 Wks. + 6 Wks.		2 nd Term 20 Wks. + 6 Wks.		3 rd Term 20 Wks. + 6 Wks.		4 th Term 16 Wks.+10 Wks.
<u>Lecture</u> Haematology – 15 Gen. Pathology – 25	<u>Assessment</u> Haematology	<u>Lecture</u> Gen. Pathology–10 Sys. Pathology –30	<u>Assessment</u> Gen. Pathology	<u>Lecture</u> Sys. Pathology –10 Chem. Pathology–5 Clinical Path - 05	<u>Assessment</u> Clinical Pathology	<u>Lecture</u> Research & Revise
<u>Tutorial</u> Haematology – 10 Gen. Pathology – 10		<u>Tutorial</u> General Pathology - 20		<u>Tutorial</u> Syst. Pathology – 18		<u>Tutorial</u> Syst. Pathology – 10
<u>Practical</u> Haematology – 20		<u>Practical</u> General Pathology – 18 Clinical Pathology – 02		<u>Practical</u> Clinical pathology – 13 Chemical Path- 9		<u>Practical</u> Syst. Pathology – 20

MICROBIOLOGY

Departmental Objective:

Undergraduate medical students after completing the course on Microbiology will become acquainted with the etiology of microbial diseases, their pathogenesis, immunological responses involved and some important clinical features that would enable them to plan and interpret necessary laboratory investigations for diagnosis, treatment and prevention. The department will provide teaching-learning experiences to achieve the following learning objectives.

KNOWLEDGE

At the end of the course, students will be able to :

- describe the aetiological agents such as Bacteria, Viruses, Parasites and Fungi that are responsible for diseases in human
- describe the pathogenesis and immune response(s) involved.
- explain the host-parasite relationship, normal flora of the body, opportunistic pathogens and pathogens.
- understand the principles and applications of immunology involved in the pathogenesis, diagnosis and prevention of microbial and immunological diseases.
- understand the microbial ecology of specialized areas like hospitals, water, food and thereby help prevent any possible spread of infections.
- make an appropriate treatment plan.

SKILL:

Students will be able to:

- plan necessary laboratory investigations, selecting appropriate clinical samples at right time and right method of their collection and interpret the results of these laboratory investigations to arrive at laboratory diagnosis of microbial and immunological diseases.
- perform simple laboratory tests which will help to arrive at a prompt diagnosis.
- carry out the techniques of asepsis, antisepsis and sterilization in day to day procedures.
- undertake universal precautions in laboratory and clinical practices.
- work in team for the effective prevention and control of communicable diseases in the hospitals and community.

ATTITUDE:

Students will be able to:

- demonstrate the attitude for further learning and continuing education for improvement of efficiency and skill in the subject.

Microbiology

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Students will be able to :</p> <ul style="list-style-type: none"> describe historical background & outline the scope and importance of Microbiology in medical science. describe the Prokaryotic and Eukaryotic cells. describe different structures of bacterial cell and their functions. classify bacteria based on staining & morphology describe the theoretical basis of statining & clinical significance of certain staining including Gram & Z-N 	<p style="text-align: center;"><i>General Bacteriology</i></p> <p><u>CORE:</u></p> <p>Introduction of Microbiology:</p> <ul style="list-style-type: none"> Brief historical background Branches of Microbiology Importances and scope of microbiology in medical science. Koch's Postulates <p>Bacterial cell:</p> <ul style="list-style-type: none"> Prokaryotic and Eukaryotic cells with examples Different structures of bacterial cell and their functions. Brief description of cell wall of Gram positive and Gram negative bacteria. Spores structure and clinical importance. <p>Bacterial classification & staining:</p> <ul style="list-style-type: none"> Basis of classification Classification by staining & morphology. Staining- Theoretical basis & clinical significance of Gram & Z-N 	<p>Lecture Tutorial</p>	<p>OHP Slide projector Handout White board Chalk board Tape slide</p>	<p>Lecture-1 Tutorial -0</p> <p>Lecture -2 Tutorial -1</p> <p>Lecture -1 Tutorial -1</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> describe the general requirements of microbial growth classify bacteriological media and describe their uses outline the different techniques of cultivation describe the tests for identification of bacteria define sterilization and disinfection describe certain methods of sterilization and disinfection, and outline their application Select appropriate method of sterilisation in their clinical practice. describe the mechanism of action of certain anti-microbial agents Select appropriate anti microbial agents describe virulence factors and their role in pathogenesis 	<p>Bacterial physiology:</p> <ul style="list-style-type: none"> Nutritional requirement for the growth Environmental factors affecting growth. Growth curve-phases with clinical significance <p>Cultivation of bacteria:</p> <ul style="list-style-type: none"> Bacteriological media classification and uses. Outline of cultivation/culture of bacteria. Outline of tests for identification of bacteria <p>Sterilization and Disinfection:</p> <ul style="list-style-type: none"> Definitions, methods of sterilization with their applications. Details of Autoclaving, Hot air oven & Chemical methods. <p>Antimicrobial agents:</p> <ul style="list-style-type: none"> Mechanism of action in brief with examples. Origin, mechanism, transmission & prevention of drug resistance. Hazards of indiscriminate use of antibiotics In vitro sensitivity testing. <p>Pathogenesis of bacterial diseases:</p> <ul style="list-style-type: none"> Transmission of disease agents. Virulence factors e.g. Toxins, enzymes, Invasiveness and their role in pathogenesis of diseases with some examples. 	Lecture Tutorial	OHP Slide - projector Handout White – board Chalk Board Tape - slide	<p>Lecture – 2 Tutorial –1</p> <p>Lecture – 1 Tutorial –1</p> <p>Lecture –2 Tutorial –1</p> <p>Lecture –2 Tutorial –1</p> <p>Lecture –2 Tutorial –1</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<ul style="list-style-type: none"> describe the different aspects of host-parasite relationship differentiate between normal, opportunistic & pathogenic bacteria & explain their clinical importance. describe the procedure for laboratory diagnosis of a clinical sample explain the different terms related to laboratory diagnosis including culture, isolation, identification. <ul style="list-style-type: none"> Describe the clinical importance of L-forms, proplast, spheroplast plasmid. Explain the importance & practical application of filtration & radiation. Explain the terms related to techniques of cultivation of differentiate bacteria in different specimens. Explain the mechanism of selective toxicity in order to understand the appropriate use of antibiotics in their clinical practice 	<p>Host-Parasite relationship:</p> <ul style="list-style-type: none"> Terms & Definitions. Parasite & Host attributes Normal flora, opportunistic pathogens & their clinical importance. Pathogens <p>Laboratory diagnosis:</p> <ul style="list-style-type: none"> Outline of laboratory diagnosis Selection, collection, preservation & transportation of clinical samples Culture / Isolation/Identification/ Immunological tests <p><u>Additional:</u></p> <ul style="list-style-type: none"> L-forms protoplast, spheroplast Techniques of cultivation of bacteria Filtration and radiation Plasmids. Selective toxicity 	Lecture Tutorial	OHP Slide -projector Handout White – board Chalk Board Tape -slide	<p>Lecture –1 Tutorial –1</p> <p>Lecture –1 Tutorial –1</p> <p>Lecture-1</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Describe the morphology, cultural characteristics & prevalence of aetiological agents in Bangladesh. Describe their pathogenesis & symptomatology. Describe the procedure, for laboratory diagnoses of a clinical sample including: Selection, Collection, Preservation and transportation of clinical samples. Interpret different laboratory tests including rapid diagnostic tests (e.g. Immunological tests, Staining) Describe the important characteristics & lesions produced by them 	<p><i>Systemic Bacteriology</i></p> <p><u>CORE:</u></p> <ul style="list-style-type: none"> Staphylococci <i>S. aureus</i>, <i>S. epidermidis</i>, <i>S. saprophyticus</i>. Streptococci pyogenes: Grouping and typing of streptococci. Streptococcus pneumoniae : Neisseria, <i>N. gonorrhoea</i>, <i>N. meningitidis</i> Corynebacterium diphtheria Enterobacteriaceae: Salmonella, Shigella, Esch.coli, Klebsiella, Proteus: General characters of the family Vibrio cholerae Pseudomonas, <i>Ps.aeruginosa</i> Mycobacterium: Tuberculosis, leprae. Anaerobic bacteria: Clostridium – Cl. tetani, Cl. botulinum, Cl. perfringens. Spirochaetes: Treponema palladium General features of spirochaetes Haemophilus: H.Influenza, H.ducrey Mycoplasma, Chlamydia, Rickettsia, Listeria, Nocardia, Actinomycetes Helicobacter pylori, campylobacter jejuni <p>Important characteristics and lesions produced.</p>	Lecture Tutorial	OHP Slide -projector Handout White – board Chalk Board Tape -slide	<p>Lecture –1 Tutorial –1 Lecture –1 Tutorial –1 Lecture –1 Tutorial –1 Lecture –1 Tutorial –1</p> <p>Lecture –3 Tutorial –1</p> <p>Lecture –1 Tutorial –1 Lecture –2 Tutorial –1</p> <p>Lecture –2 Tutorial –1</p> <p>Lecture-1 Tutorial-1 Lecture-1 Tutorial-1 Lecture-1 Tutorial-1</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<ul style="list-style-type: none"> Describe the important characteristics & lesion produced by them 	<p><u>Additional:</u></p> <ul style="list-style-type: none"> Strpt. Group B,C,G,D – clinical importance. Toxigenicity test for Clostridium diphtheriae. Aeromonas, Plesiomonas Atypical mycobacteria classifications & lesions produced. Bacteroides and other nonsporing anaerobic bacteria – Classification, lesions produced & treatment. To study individual bacterium following general scheme should be followed: Clinical /Medical importance. Clinical classification Morphological & Physiological features in brief. <p>Virulence factors and their role pathogenesis. Disease/ Lesions produced Laboratory diagnosis Sensitivity pattern /Treatment.</p>	Lecture Tutorial	OHP Slide - projector Handout White – board Chalk Board Tape -slide	Lecture-1	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Plan for appropriate investigation. Perform some simple laboratory tests Interpret the investigation findings <p>Design appropriate steps for prevention</p>	<p><i>Clinical/ Applied Microbiology</i></p> <p>CORE:</p> <ol style="list-style-type: none"> Gastrointestinal diseases: Diarrhoea, Dysentery, Food poisoning Febrile illnesses – Enteric fevers, septicaemia, pyrexia of unknown origin. Tuberculosis & Leprosy Urinary tract infections. Sorethroat & Streptococcal infections with its sequelae (ARF, AGN) Respiratory tract infections & Diphtheria Meningitis & Encephalitis Wound infections, Hospital infections, Tetanus. Sexually transmitted diseases – Syphilis, Gonorrhoea, NGU, Trichomoniasis & AIDS. Malaria & Kala-azar Intestinal helminthiasis & Filariasis Hepatitis Superficial mycoses & Candidiasis Infection in compromised host. 	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Case report writing through follow up of patient in wards</p> <p>Clinico-pathological meeting</p> <p>RFST</p>	<p>OHP</p> <p>Slide – projector</p> <p>Handout</p> <p>White – board</p> <p>Chalk</p> <p>Board</p> <p>Tape –slide</p> <p>Patient</p>	<p>Lecture –1</p> <p>Tutorial –1</p> <p>Lecture –1</p> <p>Tutorial –1</p> <p>Lecture –1</p> <p>Tutorial –1</p> <p>Lecture –1</p> <p>Tutorial –1</p> <p>Lecture –1</p> <p>Tutorial –1</p> <p>Lecture –1</p> <p>Tutorial –1</p> <p>Lecture –1</p> <p>Tutorial –1</p> <p>Lecture –1</p> <p>Tutorial –1</p> <p>Lecture –1</p> <p>Tutorial –1</p> <p>Lecture –1</p> <p>Tutorial –1</p> <p>Lecture –1</p> <p>Tutorial –1</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Describe the normal defense mechanism Explain the immunological basis of diseases Describe the immunological principles involved in different diagnostic tests (methods) 	<p><i>Immunology</i></p> <p><u>CORE:</u></p> <ol style="list-style-type: none"> Introduction: <ul style="list-style-type: none"> Brief historical background Basic concepts of immunity – types and components with examples. Immune system: <ul style="list-style-type: none"> Overview: organs and cells involved, development and functions Humoral components. Antigens and Immunogens: <ul style="list-style-type: none"> Terms and definitions, Criteria of immunogenicity, Hapten, epitomes and their clinical significance. Immunoglobulins and Antibodies: <ul style="list-style-type: none"> Terms and definitions, Classification, structure, biological properties and functions. Complements: <ul style="list-style-type: none"> Terms and definitions, activation, biological functions and clinical significance. Mechanisms of immune response : <ul style="list-style-type: none"> Antibody and cell mediated immune response. Primary and secondary immune response Hypersensitivity: <ul style="list-style-type: none"> Terms and definitions, classifications, Mechanisms, clinical significance with examples. 	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Case report writing through follow up of patient in words</p> <p>Clinico-pathological meeting</p> <p>RFST</p>	<p>OHP</p> <p>Slide – projector</p> <p>Handout</p> <p>White – board</p> <p>Chalk</p> <p>Board</p> <p>Tape –slide</p> <p>Patient</p>	<p>Lecture-1</p> <p>Lecture-1</p> <p>Lecture-1 Tutorial-1</p> <p>Lecture-1 Tutorial-1</p> <p>Lecture-1 Tutorial-1</p> <p>Lecture-1</p> <p>Lecture-2 Tutorial-1</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Describe the role of MHC/HLA in relation to transplantation and basic concept on auto-immunity & Tumour immunity. Explain the immuno deficiency disorders and applications of immuno therapy. 	<p>8. Antigen-antibody reactions in vitro: Terms and definitions, types and applications in diagnostic medicine</p> <p>Additional:</p> <ol style="list-style-type: none"> 1. Major histocompatibility complex (MHC/ HLA): Terms and definitions, types and distribution, clinical and biological significance. 2. Transplantation and Tumour immunity: Terms and definitions, types out line of prevention of graft rejection. Tumour antigens, role in diagnosis. 3. Autoimmunity: Terms and definitions, basic concepts, examples. 4. Deficiency disorders and immunotherapy: List of congenital and autoimmune disorders, Applications of immune therapy-vaccines and immunoglobulins 	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Case report writing through follow up of patient in words</p> <p>Clinico-pathological meeting</p> <p>RFST</p>	<p>OHP</p> <p>Slide – projector</p> <p>Handout</p> <p>White – board</p> <p>Chalk</p> <p>Board</p> <p>Tape –slide</p> <p>Patient</p>	<p>Lecture –1 Tutorial –1</p> <p>Lecture –1</p> <p>Lecture –1</p> <p>Lecture –1 Tutorial –1</p> <p>Lecture –1</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Describe the basic structure of virus & its differences from bacteria Describe the pathogenesis & epidemiology of common viral diseases Plan for their lab. Investigation & interpret the results Undertake appropriate measures for prevention. 	<p style="text-align: center;"><i>Virology</i></p> <p><u>CORE:</u></p> <ol style="list-style-type: none"> Introduction & General virology: <ul style="list-style-type: none"> Introduction to virology, common viral diseases in Bangladesh. Basic structure of virus Outline of viral replication Classification Pathogenesis of viral diseases Outline of laboratory diagnosis, and Antiviral agents-drugs & interferon. Hepatitis viruses: <ul style="list-style-type: none"> Hepatitis A, B, C, D, E & F viruses- Basic structure, pathogenesis, outline of laboratory diagnosis, prevention & treatment. Rota virus: <ul style="list-style-type: none"> Basic structure, pathogenesis, outline of laboratory diagnosis, prevention & treatment. Polio virus, Rabies virus: Basic structure, pathogenesis, outline of laboratory diagnosis, prevention & treatment. HIV: <ul style="list-style-type: none"> Basic structure, pathogenesis, epidemiology, outline of laboratory diagnosis, prevention & treatment. Oncogenic virus <ul style="list-style-type: none"> Definitions, important characteristics & clinical classification Herpes virus, Varicella virus, Influenza virus, RSV Important characteristics & lesions produced by them Measles virus, Mumps virus, Rubella virus: Dengue 	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Case report writing through follow up of patient in words</p> <p>Clinico-pathological meeting</p> <p>RFST</p>	<p>OHP</p> <p>Slide – projector</p> <p>Handout</p> <p>White – board</p> <p>Chalk</p> <p>Board</p> <p>Tape –slide</p> <p>Patient</p>	<p>Lecture –2 Tutorial –1</p> <p>Lecture –1 Tutorial –1</p> <p>Lecture –1</p> <p>Lecture –1 Tutorial –1</p> <p>Lecture –1</p> <p>Lecture –1 Tutorial –1</p> <p>Lecture –1 Lecture –1</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> describe morphology of aetiological agents & classify them describe antifungal agents list superficial and cutaneous mycoses with their aetiological agents describe laboratory diagnosis of certain mycoses 	<p style="text-align: center;"><i>Mycology</i></p> <p><u>CORE:</u></p> <ol style="list-style-type: none"> Introduction: Introduction to Mycology, beneficial and detrimental effects, morphology, classification, antifungal agents. Superficial and cutaneous mycoses: Laboratory diagnosis of: Dermatophytosis, Pityriasis versicolor, Candidiasis. <p><u>Additional:</u></p> <ol style="list-style-type: none"> Subcutaneous & systemic mycoses (Primary and opportunistic): 	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Case report writing through follow up of patient in words</p> <p>Clinico-pathological meeting</p> <p>RFST</p>	<p>OHP</p> <p>Slide – projector</p> <p>Handout</p> <p>White – board</p> <p>Chalk</p> <p>Board</p> <p>Tape –slide</p> <p>Patient</p>	<p>L-1</p> <p>L -2 T -1</p> <p>L –1</p>	
<ul style="list-style-type: none"> list subcutaneous and systemic mycoses with their aetiological agents describe the out time of laboratory diagnosis of cryptococcosis and histoplasmosis 					

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> describe morphology, life cycle, pathogenesis, laboratory diagnosis of common parasites in Bangladesh. plan treatment of these parasitic diseases 	<p style="text-align: center;"><i>Parasitology</i></p> <p><u>CORE:</u></p> <p>Introduction:</p> <ul style="list-style-type: none"> Introduction to parasitology, common parasitic diseases of Bangladesh, Terms and definitions, classifications of parasites, outline of laboratory diagnosis of parasitic diseases. <p>Rhizopoda-E.histolytica:</p> <ul style="list-style-type: none"> Simplified classification Geographical distribution, Morphology, lifecycle, pathogenesis, Laboratory diagnosis, treatment Difference from E.coli. <p>Flagellates- Giardia intestinalis, Trichomonas vaginalis:</p> <p>Geographical distribution. Morphology, lifecycle, pathogenesis, Laboratory diagnosis, treatment.</p> <p>Blood flagellates – Leishmania donovani:</p> <p>Geographical distribution Morphology, lifecycle, pathogenesis Laboratory diagnosis, treatment.</p> <p>Sporozoa Plasmodium spp.-</p> <p>Geographical distribution, Morphology, lifecycle, pathogenesis, Laboratory diagnosis, treatment.</p>	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Case report writing through follow up of patient in words</p> <p>Clinico-pathological meeting</p> <p>RFST</p>	<p>OHP</p> <p>Slide –projector</p> <p>Handout</p> <p>White – board</p> <p>Chalk</p> <p>Board</p> <p>Tape –slide</p> <p>Patient</p>	<p>L –2</p> <p>L –2 T –1</p> <p>L –2 T-1</p> <p>L –2 T –1</p> <p>L –2 T –1</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<ul style="list-style-type: none"> Describe the important characteristics of the parasites & lesion produced by them. 	<p>Cestodes, Taenia saginata, Taenia solium : Geographical distribution, Morphology, lifecycle, pathogenesis, Laboratory diagnosis, treatment.</p> <p>Echinococcus granulosus: Geographical distribution, Morphology, lifecycle, pathogenesis, laboratory diagnosis, treatment, Hydatid cyst-structures and evolution.</p> <p>Nematodes Intestinal: Laboratory diagnosis, treatment, of Ascaris Lumbricoids(A.L), Ankylostoma duodenale(AD), Necator Americanus (NA), Trichuris Trichiura (T.T), E.vermicularis (EV), Strongyloides Stercoralis.(S.S),</p> <p>Wuchereria bancrofti: Morphology, lifecycle, pathogenesis, Laboratory diagnosis, treatment.</p> <p>Trematodes: Name of different trematode outline of their pathogenecity including F. Buski.</p> <p>Additional: 1. Important characteristics & lesion produced by:</p> <ul style="list-style-type: none"> other rhizopoda Other leishmania, Trypanosoma H.nana, Diphylobothrium latum other nematodes Toxoplasma gondii, Cryptosporidium, Pneumocystitis carinii, B.coli. <p>2. Brief description of amoebic meningo encephalitis, larva migrans.</p>	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Case report writing through follow up of patient in words</p> <p>Clinico-pathological meeting</p> <p>RFST</p>	<p>OHP</p> <p>Slide – projector</p> <p>Handout</p> <p>White – board</p> <p>Chalk</p> <p>Board</p> <p>Tape –slide</p> <p>Patient</p>	<p>L –2 T –1</p> <p>L –1 T –1</p> <p>L-4 T-2</p> <p>L –1 T –1</p> <p>L –1 T –1</p> <p>L-1 T-1</p> <p>L –1</p>	

PRACTICAL

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Perform grams stain & Z-N stain. Explain the practical uses of autoclave & Hot air oven. Identify the common bacteriological media with colonial morphology of common bacteria. Able to read the drug sensitivity pattern of bacteria. 	<p style="text-align: center;"><i>Bacteriology Practical</i></p> <p><u>CORE:</u></p> <ol style="list-style-type: none"> Grams staining Acid fast staining & Albert staining. Sterilization – <ul style="list-style-type: none"> Autoclaving Hot air oven Cultivation of bacteria- <ul style="list-style-type: none"> Introduction to culture media & Uses Demonstration of process of inoculation, incubation, & plate reading. Demonstration of colony morphology of common bacteria – Staphylococci, Streptococcus Lactose fermenters, Lactose nonfermenters, Proteus, Pseudomonas. Demonstration of in vitro sensitivity by Disk diffusion method 	<p>Demonstration Practical Small group sessions</p>	<p>Binocular microscope</p> <p>Teaching microscope</p> <p>Video</p> <p>Coloured chart</p> <p>Handout</p> <p>White board</p> <p>Chalk board</p> <p>Slide Projector</p> <p>OHP</p>	<p>6 hours</p> <p>6 hours</p> <p>2 hours</p> <p>2 hours</p> <p>4 hours</p> <p>6 hours</p> <p>2 hours</p>	

PRACTICAL

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Expected hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> examine stool under microscope identify pathognomic structures in stool including: protozoa, cyst, ova, larva, pus cell & RBC (Emphasis-Ova AL, AD, TT, Cyst of EH, EC, giardia) examine blood slide under microscope for demonstration of MP, L.D, Microfilaria perform different laboratory tests including AT & Bone marrow examination for diagnosing Kala-azar Examine gram stain urethral discharge, prostatic fluid, Throat swab, pus, sputum, CSF for aetiological agents (Emphasis on gm-Ve diplocus) Examine Z-N stain for AFB Interpret the results of immunological tests. Examine skin scrapping for fungus. Identify pus cell & RBC in Urine 	<p><i>Applied/ Clinical Microbiology Practical</i></p> <p><u>CORE:</u></p> <ul style="list-style-type: none"> Microscopical examination of stool for demonstration of Protozoa, cyst. Ova, larva, pus cells, RBC and the structures pathonmonic of microbial diseases (AL, AD, TT, EH, E.coli, giardia). Examination of blood for demonstration of malarial parasites. Laboratory tests for diagnosis of Kala-azar Aldehyde test, demonstration of L.D bodies from bone marrow & other specimen. Bacteriological examination Urethral discharge and Prostatic fluid. Examination of CSF –cytological and Microbiological. Examination Throat swab, Pus, Sputum Immunological tests – Demonstration & interpretation of Widal, VDRL, ASO, HBsAg, Pregnancy test. Skin scrapping for superficial fungi Examination of urine 	<p>Demonstration Practical Small group sessions</p>	<p>Binocular microscope</p> <p>Teaching microscope</p> <p>Video</p> <p>Coloured chart</p> <p>Handout</p> <p>White board</p> <p>Chalk board</p> <p>Slide Projector</p> <p>OHP</p>	<p>6 hours</p> <p>4 hours</p> <p>4 hours</p> <p>2 hours</p> <p>4 hours</p> <p>4 hours 6 hours</p> <p>4 hours 2 hours</p>	

Teaching Methods & Aids of Microbiology

Teaching / Learning Methods:	Teaching Aids
<ol style="list-style-type: none">1. Lectures2. Tutorials3. Practicals4. Field site training for Community Oriented teaching and learning.	<ol style="list-style-type: none">1. Bino-ocular microscope2. Microscope with projection (magnified) system3. Overhead projector Slide projector4. Slide projector5. Tape slide6. Video7. Coloured charts8. Hand out9. White board /chalk board10. Teaching Microscope

Consolidated teaching hours for Microbiology

Subject	Theoretical		Practical	Total
	Lecture	Tutorial		
1. General Bacteriology	15	8	20	43
2. Systemic Bacteriology	20	13	10	43
3. Parasitology (Protozoology and Helminthology)	21	11	14	46
4. Clinical /Applied Microbiology	14	13	10	37
5. Immunology	15	6	6	27
6. Virology	8	4	-	12
7. Mycology	4	1	4	9
Total	97	59	64	217

97+112+128= 337 hours.

1 st Term		2 nd Term	Practical + Tutorial – 40 hours
Alloted time: Lecture – 30 hours Tutorial & Practical – 40 hours		Hours distribution Lecture – 40 hours	
General bacteriology – 15	28 hours	Virology – 08	04 hours
Inmunology – 15	<u>12 hours</u>	Mycology – 04	05 hours
30 hours	40 hours	<u>Parasitology –21</u>	<u>25 hours</u>
		33 hours	34 hours
3 rd Term			4 th Term
Alloted time: Lecture – 20 hours	Tutorial – 16 hours	Alloted time – 20 hours	Practical + Tutorial – 23 hours
Systemic bacteriology	S.B –23 hours	Clinical/ Applied – 14 hours	Clinical/ Applied – 23 hours

Academic Calendar for Microbiology

3 rd Year											
1	2	3	4	5	6	7	8	9	10	11	12
General Bacteriology & Immunology 20% marks				Prepa- ration	1 st Internal Assessment	Virology, Mycology & Parasitology 40% marks.				Prepa-ration	2 nd Internal Exam.

4 th Year											
1	2	3	4	5	6	7	8	9	10	11	12
Systemic Bacteriology/clinical 40% marks.				Prepa- ration	3 rd Internal Assessment	Clinical/Applied Microbiology (Integrated teaching) Community Medicine Block Revision/ Assignment/ Projects Of Microbiology for other batches (20)				Prepa-ration	2 nd Prof. Exam.

Alloted Marks from each internal assessment- to be added in formative assessment:

1st Term – 20%

2nd Term – 40%

3rd Term – 40%

There will be 6 (six) Cards

1. General Bacteriology
2. Protozoology
3. Virology, Mycology, Immunology
4. Helminthology
5. Systemic Bacteriology
6. Clinical/ Applied Microbiology

Integrated Teaching

Topic	Learning Objective	Teaching Strategy	Assessment	Department
1. G.I.T. disease , Diarrhoea, Dycentery, Food poisoning	Co-ordinate between the microbiological agents and their clinical manifestation.	Lecture		Microbiology Pathology Anatomy Physiology Medicine Paediatrics Surgery Pharmacology
2. Febrile illness, Enteri ferces, PUO	Plan for appropriate investigation.	Case report writing through follow up of patients in wards		Microbiology Pathology Anatomy Physiology Medicine Paediatrics Surgery Pharmacology
3. Tuberculosis, Leprosy	Interpret the investigations	Clinico. Pathological seminars		Microbiology Pathology Anatomy Physiology Medicine Paediatrics Surgery Pharmacology
4. UTI	Design appropriate steps for prevention	RFST		Microbiology Pathology Anatomy Physiology Medicine Paediatrics Surgery Pharmacology

Contd.

Topic	Learning Objective	Teaching Strategy	Assessment	Department
5. Sore throat, ARF, AGN, ARI		Teaching Aids OHP Slide Projector Video Handout White board Chalk board Microscope with projection system patients		Microbiology Pathology Anatomy Physiology Medicine Paediatrics Surgery Pharmacology
6. Diphtheria		-Do-		-Do-
7. Meningitis		-Do-		-Do-
8. Hospital instruments		-Do-		-Do-
9. STD		-Do-		-Do-
10. Malaria, Kala-azar		-Do-		-Do-
11. Filariasis		-Do-		-Do-
12. Intestinal helminthiasis		-Do-		-Do-
13. Viral hepatitis		-Do-		-Do-
14. Superficial mycosis & Candidiasis		-Do-		-Do-

Summative assessment of Pathology & Microbiology

Assessment systems and mark distribution

Components	Marks	Total Marks
Paper-I (General Pathology, Systemic Pathology, Haematology, Clinical Chemistry, Path & Genetics)		
Formative assessment		10
WRITTEN EXAMINATION		
MCQ	20	90
SAQ	70	
PRACTICAL EXAMINATION		100
ORAL EXAMINATION (Structured)		100
Paper-II (Microbiology-General Bacteriology, Systemic Bacteriology, Immunology, Parasitology, Virology & Mycology)		
Formative assessment		10
WRITTEN EXAMINATION		
MCQ	20	90
SAQ	70	
PRACTICAL EXAMINATION		100
ORAL EXAMINATION (Structured)		100
Grand Total		600

- There will be separate Answer Script for MCQ
- Pass marks 60 % in each of theoretical, oral and practical

Appendix - I

Summary of the Pharmacology Academic Program

	Third Year		Fourth Year		
	I Teaching Hours	II Teaching Hours	III Teaching Hours	IV Teaching Hours	Total Teaching Hours
Lecture	35	38	27	00	100
Practicals & Demonstrations	24	20	06	Block Placement	50
Tutorials	12	12	06	Block Placement	30
Clinical Pharmacology	00	10	20	Block Placement	30
Total	71	80	59	Block Placement	210

Appendix - II

Pharmacology & Therapeutics

Departmental Objectives

After completing the course student should be able to:

- describe the basic physicochemical properties, mechanism of actions, pharmacokinetic principles and adverse reactions of drugs
- describe the basic principles & concepts considered essential for rational, effective, safe and economic use of drugs in clinical practice
- understand the principles of rational prescribing & the basis of therapeutic decision making utilizing the principles of rational evaluation of therapeutic alternatives
- state the principles underlying the Concept of Essential Drugs and apply them in community oriented health care services
- recognize and manage the drug reactions, interactions and problems due to misuse and abuse of drugs
- recognize the implications of poly pharmacy & other means of irrational prescribing, identify different influences favoring irrational prescribing and develop means to resist them
- identify & assess objectively the drug information sources
- evaluate the ethical & legal issues involved in drug prescribing, development, manufacture & marketing
- acquire methods of learning needed for evaluation of existing and new drugs and to follow trends and approaches in pharmacological research
- develop attitude for continuous self learning

PHARMACOLOGY COURSE ORGANIZATION

Third Year

TERM I																					TERM II																											
REGULAR																					REGULAR & PASSED IN SECOND ATTEMPT																											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21–26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47-52							
Total hours for lecture = 35 hours General Principles of Pharmacology = 12 hours Autonomic Nervous System = 09 hours Renal and Cardiovascular Pharmacology = 12 hours Antianemics = 02 hours																					Total hours for lecture = 38 hours Central nervous System = 15 hours Autacoids and Dugs used in Inflammation = 10 hours Endocrine Pharmacology = 08 hours Gastrointestinal Pharmacology = 05 hours																											
																					Revision classes on = 15 hours General Principles of Pharmacology Autonomic Nervous System Renal and Cardiovascular Pharmacology Antianemics																											
Total hours for Practicals = 24 hours Prescription writing = 02 hours Dosage Formulations & Drug delivery techniques = 04 hours Pharmacokinetic Study = 06 hours Pharmacodynamic Study = 06 hours Study of the cardiovascular effects of drugs																					Total hours for Practicals = 20 hours Prescription Audit = 04 hours Study of drugs in normal human volunteer = 06 hours Statistical analysis of the result of the above study = 04 hours Demonstration of anesthetic procedure = 04 hours Interpretation of experimental tracing = 02 hours																											
Tutorials = 12 hours Principles of Rational Drug Prescribing = 02 hours Compliance and Essential Drug Concept = 02 hours Clinical Pharmacokinetics = 02 hours Drug management of mild to moderate hypertension = 02 hours Drug management of Myocardial infarction = 02 hours Drug management of Heart Failure																					Tutorials = 12 hours Autacoids = 02 hours Drug Management of Bronchial Asthma = 02 hours Diarrhea & Management = 02 hours Drug management of Peptic Ulcer = 02 hours Pain = 02 hours Anxiolytics and Anti-depressants = 02 hours																											
																					CLINICAL PHARMACOLOGY CASE REPORT = 10 hours																											

Fourth Year

TERM III																	TERM IV
REGULAR & PASSED IN SECOND ATTEMPT (will follow program for next Batch)																	REGULAR & PASSED IN SECOND ATTEMPT (will follow program for next Batch)
Total hours = 27 hours Chemotherapy = 21 hours Special Topics = 06 hours																	Block Placement = 20 weeks Rotation of different batches for a duration of 2 weeks for review of tutorials and practicals = 10 weeks Projects and Assignments for self learning = 04 weeks Preparatory Period = 06 weeks
Revision classes on = 15 hours Central nervous System Autacoids and Dugs used in Inflammation Endocrine Pharmacology Gastrointestinal Pharmacology																	
Total hours for Practicals = 06 hours Exercise on Selection of "P" drugs																	
Tutorial = 06 hours Principles of Selection and general problems of chemotherapy and Chemoprophylaxis = 02 hours Chemotherapy of Selected Infections & Standard Treatment Protocols = 04 hours Malaria, Tuberculosis, Enteric Fever, Acute Diarrhea, ARI, STDs																	
CLINICAL PHARMACOLOGY CASE REPORT = 20 hours																	

Appendix - IV
PHARMACOLOGY COURSE CONTENT: Term I

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
GENERAL PRINCIPLES OF PHARMACOLOGY		CORE CONTENT			12 hours	
Students shall be able to: <ul style="list-style-type: none"> describe the role & scope of Pharmacology in Medical Science understand the pharmaceutical phase of drug therapy- such as drug administration and drug delivery techniques & dosage formulations describe ethical, legal and economic aspects of prescription writing and appropriate importance of compliance understand the principles of kinetics & drug disposition such as absorption, distribution, biotransformation & excretion of drugs 	01. 02. 03. 04. 05.	Introduction Historical background Role & scope of Pharmacology in Medical Science Definition of disciplines of Pharmacology Administration of drugs Routes for local and systemic drug effects Advantage and disadvantage of different routes Criteria for selection of route of drug administration Pharmacokinetics: Drug absorption & Bioavailability Transfer of drug across cell membrane Absorption and their processes Factors modifying absorption Bioavailability, bioavailability studies and their clinical significance Drug Distribution Factors affecting distribution Selective distribution, Plasma protein binding, specialized barriers Concept of volume of distribution Biotransformation: Purpose, sites, reaction and their phases Factors modifying biotransformation and its' clinical importance Enzyme induction & enzyme inhibition	Lecture/ Tutorial/ Class Assignment	Microphone, Speaker, Overhead Projector With Screen, Laser Pointer, Slide Projector, Black Board, White Board, Marker, Duster	1 hour 1 hour 3 hours 1 hour 1 hour	Three ITEM examinations (Oral) One End-Term examination (Written, Oral and Practical)

PHARMACOLOGY COURSE CONTENT: Term I (contd.)

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
GENERAL PRINCIPLES OF PHARMACOLOGY (cont.) Students shall be able to: <ul style="list-style-type: none"> • Explain the basic principles relating to cellular and molecular aspects of drug action • Understand & interpret quantitative aspects of drug action such as dose-response relationships • Selectivity, specificity and toxicity of drugs • Problems of adverse drug reactions, interactions, misuse and abuse 	06.	Drug elimination and clinical kinetics Routes of drug elimination Factors modifying renal elimination First order & zero order kinetics of elimination Concept of renal clearance Plasma half life & steady state concentration	Lecture/ Tutorial/ Class Assignment		1 hour	
	07.	Dynamics: Mechanism of drug action Targets of drug actions: receptors, enzymes & other target proteins Drug receptor interaction (concept of agonist, antagonist and partial agonist) and signal transduction mechanisms Quantitative aspect of drug-receptor interactions: Dose-response relationships Concept of efficacy, potency and safety (therapeutic index)			3 hours	
	08.	Individuals' variations in drug response/Adverse drug events Predictable and unpredictable adverse effects Drug hypersensitivity, idiosyncrasy and hypersusceptibility General principles of management of adverse drug events Specific antidotes ADDITIONAL CONTENTS			1 hour	

PHARMACOLOGY COURSE CONTENT: Term I (contd.)

PHARMACOLOGY COURSE CONTENT: Term I (contd.)

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
RENAL AND CARDIOVASCULAR PHARMACOLOGY		CORE CONTENTS			12 hours	
Students will be able to:						
<ul style="list-style-type: none"> Classify or list drugs which affect the Cardio Vascular System Identify their pharmacological effects Interpret mechanism of actions, kinetics and toxicity Correlate these knowledge to form the basis for rational use of drugs in a given clinical situation 	01.	Diuretics Structure & function of nephrones: Sites of action of diuretics Pathophysiology of edema Classification of diuretics: Pharmacology of Thiazides, Loop and Potassium sparing diuretics, their role in the edema and hypertension	Lecture/ Tutorial/ Class Assignment		2 hours	Two ITEM examinations (Oral)
	02.	Drugs used in hypertension Epidemiology and pathophysiology of hypertension Role of Renin-angiotensin system & Kinins Diuretics, β blockers, <u>Ca channel blockers</u> , <u>ACE inhibitors</u> , <u>Angiotensin receptor antagonists</u> , <u>α methyl dopa</u> , <u>Vasodilators (α blockers</u> , Hydralazine) (WHO-ISH guideline, mechanism of action, adverse effects and precaution)			3 hours	One End-Term examination (Written, Oral and Practical)
	03.	Principles of selection of drug in different clinical situations (pregnancy and associated diseases)			2 hours	
	04.	Drugs used in congestive cardiac failure Pathophysiology of heart failure <u>Digoxin</u> , ACE inhibitors, Diuretics and <u>other agents</u> (role of these drugs in congestive heart failure) Antianginal drugs Basic concepts of angina Drugs, their mechanism of action and adverse effects			1 hour	

PHARMACOLOGY COURSE CONTENT: Term I (contd.)

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
RENAL AND CARDIOVASCULAR PHARMACOLOGY (cont.)	05	Thrombolytics and anticoagulants Drugs (mechanism of action, uses and adverse effects)	Lecture/ Tutorial/ Class Assignment		2 hours	
	06	Antiplatelet drugs and lipid lowering agents Antiplatelet drugs (mechanism of action, uses, adverse effects, drug-drug interactions and precaution) Lipid lowering drugs (uses, adverse effects, drug-drug interactions and precaution) ADDITIONAL CONTENTS			2 hours	

PHARMACOLOGY COURSE CONTENT: Term I (contd.)

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
ANTIANEMICS		CORE CONTENTS			02 hours	
<p>Students will be able to:</p> <ul style="list-style-type: none"> Classify or list drugs which affect the Hemopoetic system Identify their pharmacological effects Interpret mechanism of actions, kinetics and toxicity Correlate these knowledge to form the basis for rational use of drugs in a given clinical situation 		<p>Hematinics Types of anemia: Anemia due to deficiency of nutrients necessary for hemopoiesis; Iron, folic acid, Vit B12 (absorption, pharmacological effects, precaution, uses, adverse effects and management).</p> <p>ADDITIONAL CONTENTS</p>	Lecture/ Tutorial/ Class Assignme nt		2 hours	<p>One ITEM examination along with Endocrine Pharmacology (Oral)</p> <p>One End-Term examination (Written, Oral and Practical)</p>

PHARMACOLOGY COURSE CONTENT: Term II

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
CENTRAL NERVOUS SYSTEM		CORE CONTENTS			15 hours	
Students will be able to: <ul style="list-style-type: none"> Classify or list of drugs acting on Central Nervous System Explain the mechanisms of action, kinetics and toxicity of these drugs Describe the uses, administration, adverse effects & precautions of drugs used in diseases of CNS Correlate these knowledge to form the basis for rational use of drugs in a given clinical situation 	01. 02. 03. 04. 05.	Introduction Neurotransmitters of CNS (distribution & importance) CNS stimulation and depression Opioid analgesic Pathophysiology of pain Endogenous opioids & pain modulation Opioid receptors (names and their role in analgesia) Opioids: Morphine, Codeine & synthetic analogues used as analgesics (pharmacological effects, clinical uses, adverse effects, contraindications) Role of Morphine in myocardial infarction, pulmonary edema and terminal illness Tolerance and dependence Drug abuse, misuse and drug dependence (definition, drugs responsible, social impact, regulation, withdrawal symptom, management and rehabilitation- in brief) Local anesthetic Drugs, mechanism of action, uses, administration and hazards General anesthesia & drugs Principles of General Anesthesia Preanesthetic medication Induction: Intravenous anesthetics (Thiopental, Ketamine) Maintenance: Inhalation anesthetics (Kinetics and Dynamics) Agents: Nitrous Oxides, Halothane, Ether, Newer Fluranes Skeletal muscle relaxation and reversal Neurotransmission at Neuromuscular junction Depolarizing and Non depolarizing neuromuscular blockers Anticholinesterase: Neostigmine	Lecture/ Tutorial/ Class Assignme nt		1 hour 2 hours 1 hour 1 hour 4 hours	Four ITEM examinations (Oral) One End-Term examination (Written, Oral and Practical)

PHARMACOLOGY COURSE CONTENT: Term II (Contd.)

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
CENTRAL NERVOUS SYSTEM (cont.)	06.	Drugs used in anxiety and sleep disorder Pathophysiology of sleep Benzodiazepines and other non-BDZ sedative-hypnotics	Lecture/ Tutorial/ Class Assignment		1 hour	
	07.	Antipsychotic drugs Neurochemical basis of psychosis Drugs Pharmacological effects (beneficial and adverse effects) of Phenothiazines			1 hour	
	08.	Antidepressant drugs Neurochemical basis of depression (elementary) Tricyclic and second generation polycyclic antidepressant SSRIs and MAOIs			1 hour	
	09.	Anticonvulsant/Antiepileptic drugs Drugs (mechanism of action, adverse effects and uses) Phenobarbital, Phenytoin, Carbamazepines			1 hour	
	10.	Drugs used in vomiting Pathophysiology of vomiting 5HT agonists and antagonists Dopamine antagonists and other antiemetics Selection of antiemetics			2 hours	
		ADDITIONAL CONTENTS				

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
AUTACOIDS AND DRUGS USED IN INFLAMMATION		CORE CONTENTS			10 hours	
<p>Student will be able to describe:</p> <ul style="list-style-type: none"> The role of biogenic amines & prostaglandins in health & diseases Identify their pharmacological effects Interpret mechanism of actions, kinetics and toxicity Correlate these knowledge to form the basis for rational use of drugs in a given clinical situation 	01.	AUTACOIDS Definition and lists of autacoids Histamine: Synthesis, storage & release Pharmacological action & physiological role Antihistamines H1 antagonists: Classification, role in allergic conditions & other clinical uses and adverse reactions H ₂ -receptor antagonists: Role in peptic ulcer	Lecture/ Tutorial/ Class Assignme nt		2 hours	One ITEM examination (Oral) One End-Term examination (Written, Oral and Practical)
	02.	ECOSANOIDS: Prostaglandins: products of cyclooxygenase pathway Leukotrienes: products of lipoxygenase pathway Platelet activating factor Synthetic pathway & antagonists Physiological roles, pharmacological actions and possible clinical uses of synthetic analogues and antagonists			2 hours	
	03.	Non Steroidal Anti Inflammatory Drugs (NSAIDs) and Non-opioid analgesics Paracetamol (mechanism of antipyretic and analgesic action, adverse effects) NSAIDs (mechanism of action, adverse effects and precaution) Selective COX II inhibitors			2 hours	

PHARMACOLOGY COURSE CONTENT: Term II (contd.)

Learning Objectives		Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
AUTACOIDS AND DRUGS USED IN INFLAMMATION (cont.)	04.	Adrenal Steroids Synthetic glucocorticoids: Pharmacological effects Role of corticosteroid in different clinical conditions specially in Shock, Bbronchial asthma, Rheumatoid arthritis and other Autoimmune diseases Adverse effects and contraindications Topical steroids (name and hazards)	Lecture/ Tutorial/ Class Assignment		2 hours	
	05.	Drug treatment of bronchial asthma Bronchodilators (β_2 agonists, theophylline & Aminophylline, Ipratropium & newer Leukotriene antagonist) Anti-inflammatory steroids Chromolyn Sodium & related drugs ADDITIONAL CONTENTS			2 hours	

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
ENDOCRINE PHARMACOLOGY		CORE CONTENTS			08 hours	
<p>tudents will be able to:</p> <ul style="list-style-type: none"> Classify or list drugs which affect the Endocrine system Identify their pharmacological effects Interpret mechanism of actions, kinetics and toxicity Correlate these knowledge to form the basis for rational use of drugs in a given clinical situation 	<p>01.</p> <p>02.</p> <p>03.</p> <p>04.</p> <p>05.</p>	<p>Pancreatic islet hormones Insulin & control of blood glucose Mechanisms of action Diabetes Mellitus: Types Insulin therapy: Preparations, administration, indications & contraindications Hypoglycemia & other adverse effects: Management</p> <p>Oral hypoglycemic agents: Sulphonylureas, Biguanides, α-glucosidase inhibitors & newer agents (mechanism of action, adverse effects, uses)</p> <p>Oestrogen & Progestenes: Hormonal regulation of conception Contraceptives: Oral and Parenteral preparations Hormone-replacement therapy (mechanism of action, adverse effects and precaution)</p> <p>Drugs acting on Uterus Oxytocics: Oxytocin, Ergometrine, Prostaglandin Sympathomimetics</p> <p>Drugs used in thyroid disorders Thyroid hormones and Antithyroid drugs (mechanism of action, adverse effects)</p> <p>ADDITIONAL CONTENTS</p>	<p>Lecture/ Tutorial/ Class Assignme nt</p>	<p>Microphone, Speaker, Overhead Projector With Screen, Laser Pointer, Slide Projector, Black Board, White Board, Marker, Duster</p>	<p>2 hours</p> <p>1 hour</p> <p>2 hours</p> <p>1 hour</p> <p>2 hours</p>	<p>One ITEM examination (Oral)</p> <p>One End-Term examination (Written, Oral and Practical)</p>

PHARMACOLOGY COURSE CONTENT: Term II (contd.)

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
GASTROINTESTINAL PHARMACOLOGY		CORE CONTENTS			5 hours	
Students will be able to:						
<ul style="list-style-type: none"> Classify or list drugs which affect the Gastrointestinal Tract Identify their pharmacological effects Interpret mechanism of actions, kinetics and toxicity Correlate these knowledge to form the basis for rational use of drugs in a given clinical situation 	01.	Drugs used in peptic ulcer and GERD Pathophysiology of peptic ulcer Approach of treatment of peptic ulcer Antacids, H ₂ receptor blocker, Omeprazole, Sucralfate Helicobacter Pylori eradication regimen Prokinetic drugs and other agents (mechanism of action and adverse effects)	Lecture/ Tutorial/ Class Assignme nt		2 hours	One ITEM examination (Oral)
	02.	Drugs used to treat diarrhea Epidemiology, principle of management of diarrhea, Role of fluid replacement, selection of route and preparations Composition of ORS and different intravenous fluids Specific treatment of the cause by antimicrobials Role of ant motility drugs			2 hours	One End-Term examination (Written, Oral and Practical)
	03.	Laxatives Drugs (mechanism of action, uses and adverse effects) ADDITIONAL CONTENTS			1 hour	

PHARMACOLOGY COURSE CONTENT: Term III

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
CHEMOTHERAPY		CORE CONTENTS			21 hours	
<p>Students will be able to:</p> <ul style="list-style-type: none"> Classify or list each group/class of antimicrobial drugs Explain the mechanisms of action, kinetics and toxicity of antimicrobials Describe the uses, administration, adverse effects & precautions of antimicrobials used in different clinical conditions Correlate these knowledge to form the basis for rational use of drugs in a given clinical situation 	<p>01.</p> <p>02.</p>	<p>Introduction General concept Mechanism of action Principles of antimicrobial therapy Choice of antimicrobial agent Prophylactic antimicrobial therapy Antimicrobial combination Development of resistance Importance of emergence of resistance Processes involved in development of resistance Measure to delay emergence of resistance</p> <p>Microbiological Profile of common infections Classification of organisms responsible for common bacterial infections with choice of principal drug(s) and alternatives</p> <p>SELECTIVE ANTIMICROBIALS The following aspects shall be discussed with every group/class Names Spectrum of activity Mechanism of action Therapeutic uses Adverse effects Contraindications Precaution Comparative status of the different agents</p>	<p>Lecture/ Tutorial/ Class Assignme nt</p>		<p>3 hours</p> <p>1 hour</p>	<p>Four ITEM examinations (Oral)</p> <p>One End-Term examination (Written, Oral and Practical)</p>

PHARMACOLOGY COURSE CONTENTS: Term III (contd.)

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
CHEMOTHERAPY (cont.)	03.	Beta lactam antibiotics Penicillin, Cephalosporins and other beta lactams	Lecture/ Tutorial/ Class Assignment		2 hours	
	04.	Tetracyclines and Chloramphenicol			1 hour	
	05.	Macrolides and Lincosansides			1 hour	
	06.	Aminoglycosides			1 hour	
	07.	Sulfonamides and Cotrimoxazole Topical and combinations			1 hour	
	08.	Quinolones			1 hour	
	09.	Azoles Metronidazole and other Azole derivatives			1 hour	
	10.	Drugs used in tuberculosis			2 hours	
	11.	Drugs used in fungal infection Biology of fungi			1 hour	
	12.	Drugs used in viral infections Type and name of viruses Antiviral agents (Interferon, Acyclovir, Zidovudine) Antiseptic & Disinfectants			1 hour	
	13.	Drugs used in Helminthic infections Epidemiology, Types of helminthes			1 hour	
	14.	Drugs used in Protozoal infections Antimalarial agents Anti Kala-azar agents			2 hours	

PHARMACOLOGY COURSE CONTENTS: Term III (contd.)

Learning Objectives		Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
CHEMOTHERAPY (cont.)	15.	Cancer chemotherapy Cell cycle General principle of chemotherapy Anticancer drugs (basic mechanism of action, adverse effects and precautions) Drugs used in management of adverse effects Additional contents	Lecture/ Tutorial/ Class Assignme nt		2 hours	

PHARMACOLOGY COURSE CONTENT: Term III (Contd.)

Learning Objectives		Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
SPECIAL TOPICS		CORE CONTENTS			05 hours	
Students will be able to: <ul style="list-style-type: none">Acquire methods of learning needed for evaluation of existing and new drugs and to follow trends and approaches in pharmacological researchDescribe the problems of drugs administration in pregnant, neonates & geriatrics	1. 					

Appendix - V

PHARMACOLOGY PRACTICALS

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
PRACTICALS					30 hours	
After completing the course student should be able to: <ul style="list-style-type: none"> Identify different dosage forms of drugs and recognize their implications Perform the experiments using animals to understand drug action Apply general principles of prescription writing to specific situations Analyze statistical data of different experiments Able to conduct and interpret clinical trial in human volunteers 	01.	Prescription writing Format, legal & ethical aspects, drug nomenclature, compliance and Essential Drug concept			02 hours	At the end of each practical, student should submit a report for marking One End-Term examination (Written, Oral and Practical)
	02.	Dosage formulations & Drug delivery techniques			04 hours	
	03.	Pharmacokinetics: Time-conc. curve Determination of Volume of distribution, Clearance and Half life			06 hours	
	04.	Dynamics: Dose response relationship Construction of Dose-response Curve & Comparisons of E _{max} , ED ₅₀ and Therapeutic Index of agonists			06 hours	
	05.	Study of the cardiovascular effects of drugs: Interpretation of experimental tracings showing the effects of drugs on blood pressure/heart rate <ol style="list-style-type: none"> Slow IV infusion of catecholamine on human Cholinergic and anticholinergic drugs Adrenergic and antiadrenergic drugs 			06 hours	

PHARMACOLOGY PRACTICALS (contd.)

Learning Objectives		Core Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
PRACTICALS (contd.)						
	06.	Prescription audit			04 hours	
	07.	Study of drug effects on human volunteers using any one of the following drugs: Nitroglycerine/ Propranolol/Diuretics			06 hours	
	08.	Statistical analysis of the result of study on human volunteers: Determination of 't' and p value			04 hours	
	09.	Exercise on selection of "P" drugs			06 hours	
	10.	Demonstration of anesthetic procedures: (in collaboration with department of Anesthesia)			04 hours	
	11.	Effects of skeletal muscle relaxants: Interpretation of experimental tracing			02 hours	

Appendix - VI

PHARMACOLOGY TUTORIALS

Learning Objectives		Contents	Teaching/ Learning Strategy	Teaching Aids	Hours/ Days	Assessment
TUTORIALS					30 hours	
	TERM I	Principles of Rational Drug Prescribing Compliance and Essential Drug Concept Clinical Pharmacokinetics Drug management of mild to moderate hypertension Drug management of Myocardial infarction Drug management of Heart Failure			12 hours	
	TERM II	Autacoids Drug Management of Bronchial Asthma Diarrhea & Management Drug management of Peptic Ulcer Pain Anxiolytics Anti-depressants			12 hours	
	TERM III	Principles of Selection and general problems of Chemotherapy and Chemoprophylaxis Chemotherapy of Selected Infections & Standard Treatment Protocols Malaria, Tuberculosis, Enteric Fever, Acute Diarrhea, ARI, STDs			06 hours	
	TERM VI	Block Placement for review			00 hours	

Appendix - VII

Department of Pharmacology & Therapeutics

Clinical Pharmacology Case Report

Student's Name :
Class Roll # :
Remark of the Batch Teacher :

Professor of Pharmacology & Therapeutics

Patient's Particulars

Personal history

Patient's name:	Age:
Education:	Occupation:
Socio-economic Status:	Ward/Bed:
Date of Admission:	Date of discharge:

History of past illness (including Drug History)

Description of present illness (History & Clinical Findings)

Investigation done with results:

Clinical Pharmacology Case Report (contd.)

Provisional diagnosis:

Therapeutic problem(s) :

Drug therapy given

(mention the exact brand name written in the treatment sheet and their corresponding generic):

Result/Outcome of the treatment:

Daily Progress Report

Day from admission	With/ Without Drug	Pulse (per minute)	Blood Pressure (mm of Hg.)	Respiration (per minute)	Urinary volume	Weight	Others		
Day 1									
Day 2									
Day 3									
Day 4									
Day 5									
Day 6									
Day 7									

Make a Summary of the Case Report (Stating personal history, complaints, clinical findings, reports of investigations done, diagnosis made, treatment given & outcome of the treatment)

Clinical Pharmacology Case Report (contd.)

A. Discussion about therapeutic problem & drug therapy given

1. Define the therapeutic problem(s) of the case you have reported.

2. Did the drug(s)/treatment given address all the therapeutic problem?

Yes/No

Relate the treatment/drugs given to specific therapeutic problem.

If no, explain why?

3. For each drug given, was their other alternatives?

4. Considering the drug(s) given & the alternatives, whether the choice was MOST appropriate

(consider drug's effectiveness (benefit), Risk & Cost, Route of Administration, Dosage, Frequency & Duration of Therapy and Patient's Factors like age, Pregnancy & Diseases).

B. Comments on Prescription

1. Was the route of administration, dosage, frequency & duration of therapy properly mentioned?

2. Was the patient warned about possible adverse effects of each drug & how to avoid them?

Clinical Pharmacology Case Report (contd.)

C. Report on Averse Effects

Was there any reported adverse effects in this case?

If yes, what are the clinical manifestations & how they have been managed?

D. Final Comments:

E. Drug Discussion

Brief information about the drug(s) used in the therapy (including Generic name/ International Non-proprietary name, Pharmacological effects, Mechanism of action, Metabolism and Elimination, Important drug-drug and drug-food interactions)

Signature of the student

References :

Appendix - VIII

Department of Pharmacology & Therapeutics

Students' In-Course Evaluation Card

Name of Student:

Year:

Roll No.:

Batch:

Session:

Address:

SSC Exam Year:

Div:

Marks:

Distinction:

HSC Exam Year:

Div:

Marks:

Distinction:

Admission in Medical College:

First Professional Examination Passed in _____ at first/second/third chance

For Official Use Only

	TERM I	TERM II	TERM II	TERM IV	TERM V	FINAL						
	Held	Attended	Held	Attended	Held	Attended	Held	Attended	Held	Attended	Held	Attended
Lecture												
Practical												
Tutorial												
Seminar												

SL No	Title and contents	Marks	Initial of teacher
	TERM I		
01.	Introduction to Pharmacology Sources of Drug and Dosage Formulation Routes of Drug Administration		
02.	Pharmakokinetics Absorption, Distribution, Biotransformation and Excretion		
03.	Pharmacodynamics Mechanism of Drug Action, Adverse Drug Events		
04.	Cholinergic agonists and antagonists		
05.	Adrenergic agonists and antagonists		
06.	Diuretics and Drugs used in Hypertension		
07.	Antianginal, anticoagulant, thrombolytic, lipid lowering agents Drugs used in heart failure		
08.	Antianemics		
	FIRST ASSESSMENT EXAMINATION		

Students' In-Course Evaluation Card (contd.)

	TERM II		
09.	Drugs used in anxiety and sleep disorder Benzodiazepines and Non-Benzodiazepines		
10.	Antipsychotics, Antidepressants and Anticonvulsants		
11.	Analgesics, Anesthetics and Drug dependence		
12.	Autacoids, Anti-inflammatory drugs (NSAIDs) and Steroidal agents		
13.	Drugs used in Diabetes Mellitus Hormonal Contraceptives Thyroid hormones and Anti-thyroid Drugs		
14.	Gastrointestinal Pharmacology		
	SECOND ASSESSMENT EXAMINATION		
	TERM III		
15.	General aspects of chemotherapy Development of Drug resistant Microbiological profile of common infections		
16.	β lactams Sulphonamides, Cotrimoxazole, Quinolones and Azoles		
17.	Tetracyclines, Chloramphenicol, Aminoglycosides and Macrolides		
18.	Drugs used in Tuberculosis, Leprosy, Malaria, Kala-azar, Amebiasis, Filariasis and Helminthiasis		
19.	Antifungal, Antiviral, Anti-scabies, Anti-neoplastic		
20.	Special Topics		
	FINAL ASSESSMENT		

Head of the Department

Department of Pharmacology & Therapeutics

_____ Medical College

Summative Assessment of Pharmacology & Therapeutics

Assessment Systems and Mark Distribution

Components	Marks	Total Marks
Formative assessment		10
WRITTEN EXAMINATION MCQ SAQ	20 70	90
PRACTICAL EXAMINATION Traditional Practical Examination OSPE	60 40	100
ORAL EXAMINATION (Structured) 2 Boards		100
Grand Total		300

- There will be separate Answer Script for MCQ
- Pass marks 60 % in each of theoretical, oral and practical

CONTENTS

Part I – Course Contents

Concept of Community Medicine and Health & Disease
Behavioural Science
Biostatistics
Health Education
National & International Health.

Part II – Course Contents

Epidemiology
Epidemiology of Common Health Problems
Public Health Nutrition
MCH-FP
Immunity & disinfection
Demography
Entomology
Environmental Health
Occupational Health
Primary Health Care & Public Health Administration
Disaster

Evaluation of Community Medicine

Time Allocation for Community Medicine

List of Contributors and Resource Personnel

Annex 1 : Residential Field Site Training Course
Community Placement Week
Primary Care Week

Annex 2: An Example of Clinico-Social Case Study
Epidemiological Exercises: Filariasis; Malaria
Communication Skills: Checklist; Rating Scale
Group Interaction Observation Guide
Impressions of Village People
Integrated Teaching

Departmental Objectives of Community Medicine:

The objective of teaching by the Department of Community Medicine is to produce basic doctors towards fulfilment of community health needs of the country.

To achieve this the department will provide medical students with learning experiences:

1. for comprehensive health care,
2. to develop insight into concept and practice of primary health care and essential services package.
3. for carrying out epidemiological studies for community health problems,
4. in organising and practising health education programmes in the community,
5. for developing appropriate attitude to deal with common health problems,
6. to work as a member of health team, and
7. to participate in national health programmes.

Community Medicine Curriculum

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours /days	Assessment
		Class-room	Practical/visit	Aids		
Concept of Community Medicine and Health & Disease Students will be able to: <ol style="list-style-type: none"> 1. define community, community medicine, comprehensive health care 2. define health and disease, public health , preventive medicine, social medicine, family medicine 3. identify the factors influencing health and disease 4. understand and appreciate the multifactor aetiology of disease 5. identify social factors related to health 6. demonstrate awareness of different levels of health care delivery and their organizations & functions 7. demonstrate awareness of different types of organisations providing health care in Bangladesh both in rural & urban areas 	CORE Concept of community medicine Concept of health and disease Health and social problems in Bangladesh Organization and health care delivery system of Bangladesh. Concept of organisation of HPSP Health Team Concept	<ul style="list-style-type: none"> • Lecture • Self study • Short presentation • Question answering session • Discussion • Short presentation • Demonstration 	<ul style="list-style-type: none"> • Day visit 	<ul style="list-style-type: none"> • Video • Handout • Charts 		<ul style="list-style-type: none"> • Written • Oral • Check-list

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours / days	Assessment
		Class-room	Practical/visit	Aids		
8. understand health services are delivered by medical, health and other allied personnel 9. describe the composition of health team at different levels e.g. thana & union 10. describe the type and range of work undertaken by different categories of health workers 11. state the role of doctor in hospital setting, health centres setting and community setting 12. Describe common health & social problems of Bangladesh	ADDITIONAL History of public health. Multi-sectorial responsibility of health Disease profile.	<ul style="list-style-type: none"> Lecture Short presentation with video Discussion Classroom exercise Case presentation Role play 	<ul style="list-style-type: none"> Day Visit 	<ul style="list-style-type: none"> Video Reading materials (e.g. Thana manual) Paper cutting 		<ul style="list-style-type: none"> Written Oral Check-list Assignment

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours /days	Assessment
		Class-room	Practical/visit	Aids		
II. Behavioural Sciences Concept of Behavioural Science, sociology, social anthropology, psychology, social psychology, health psychology, health economics and health manpower development. Students will be able to: A. Define behavioural science, anthropology, social anthropology, medical anthropology, psychology, social psychology, health psychology, health economics and health manpower development. B. Define society, family, culture social inequality, social change, urbanization, globalization. C. Explain the principles of sociology and their application in understanding human behaviour and behavioural change. D. Comprehend the elements of psychology, social psychology and health psychology. Perception, cognition, learning, motivation, emotion, attitude and stress. The student will be able to: A. Explain the concepts and basic process in perception, cognition, learning, motivation, emotion, attitude and stress. B. Apply the above psychological concepts and process in changing health and illness behaviour.	CORE Concept of behavioural science, sociology, social anthropology, psychology, social psychology, health psychology, health economics and health manpower development. Perception, cognition, learning, motivation, emotion, attitude and stress. Social, cultural and psychological factors in health and illness Interpersonal relationship Doctors-patient relationship Family in health and illness Illness behaviour and its management Social change and health and illness. Health economics and health manpower Behavioural change communication (BCC)	<ul style="list-style-type: none"> Lecture Self-study Short presentation with video Discussion Brainstorming & discussion 		<ul style="list-style-type: none"> Video Film strip Handout Textbook OHT Other reading materials 		<ul style="list-style-type: none"> Written Oral Checklist

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours /days	Assessment
		Class-room	Practical/visit	Aids		
II. Behavioural Sciences (cont'd) Social, Cultural and psychological factors in health and illness A. Identify cultural factors (such as, beliefs, values, norms, and practices) those which are beneficial and those which are harmful for the maintenance of health. B. Analyse various social and cultural factors which influence the health of: (a) individual (b) family and (c) community C. Collect data on socio-cultural aspects of the community such as: Education, income, occupation, housing, culture, beliefs, values and norms of an individual or a family relating to health and illness. D. Assess socio-cultural factors which act as barriers to good health and recovery from illness. E. Appreciate the impact of urbanization on health and disease.	Additional Intelligence Personality Leadership Psychological assessment Family attachment	<ul style="list-style-type: none"> Lecture Self-study Short presentation with video Discussion 	<ul style="list-style-type: none"> Student project (clinico-social case study) Visits to UDA Family attachment (as situation permits 1 st /2 nd year)	<ul style="list-style-type: none"> Video Film strip Handout Textbook OHT Other reading materials 		<ul style="list-style-type: none"> Written Oral

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
II. Behavioural sciences (cont'd) Interpersonal Relationships A. Understand interpersonal relationships B. Appreciate how the doctor-patient relationship may be influenced by the behaviour of either the patient or the doctor. <u>Doctor</u> -emotional involvement -sentimentality -avoidance of giving bad news -offending the patient -attention -compassion <u>Patient</u> -denial of illness -manipulation of doctor -using doctor for -emotional -support -respect -confidence C. Recognise and demonstrate the body language which reflects common emotions and influences interpersonal communication in health context.		<ul style="list-style-type: none"> Lecture Self-study Short presentation with video Discussion 	<ul style="list-style-type: none"> Student project (Clinico-social case study) 	<ul style="list-style-type: none"> Video Film strip Handout Textbook OHT Other reading materials 		<ul style="list-style-type: none"> Written Oral
Family in health and illness A. Appreciate the role of family in health and illness.		<ul style="list-style-type: none"> Self-study Short presentation with video Brain storming & discussion 	<ul style="list-style-type: none"> Family attachment (if situation permits 1st/2nd Year) 	<ul style="list-style-type: none"> Video Reading materials OHT 		<ul style="list-style-type: none"> Written Oral Check-list

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
II. Behavioural sciences (cont'd) Illness behaviour and its management A. State behavioural changes during illness of an individual B. Identify and explain the impact of norms, values and habits on health maintenance and illness of individual and family. Social change and health and illness A. Understand the relationship between social change and development of health of the aged, women and children, in particular. B. Changing pattern of illness as a consequence of urbanization, occupational change and globalization.		<ul style="list-style-type: none"> • Lecture • Discussion 	<ul style="list-style-type: none"> • Student project (Clinico-social case study) 	<ul style="list-style-type: none"> • Video • OHT/ slides • Prepared questionnaire • Handout • Study instrument 		<ul style="list-style-type: none"> • Written • Oral • Check-list
Behavioural Change Communication (BCC) A. Explain how behaviour changes and the role of communication in the process of behavioural change.		<ul style="list-style-type: none"> • Lecture • Discussion 		<ul style="list-style-type: none"> • Video • Films strip • OHT/slides 		

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours /days	Assessment
		Class-room	Practical/visit	Aids		
III. Bio-statistics 1. Define terms: - Bio-statistics, vital statistics 2. Aware about the importance of birth, death marriage and sickness registration 3. Interpret the effects of: (a) universe/ population in a study design (b) sampling (c) bias (d) variation 4. Calculate a given data to interpret: (a) mean (b) median (c) mode (d) standard deviation (SD) 5. Present a given statistical information by (a) tabulation (b) bar diagram (c) line diagram (d) pie diagram	CORE Introduction to bio-statistics. Uses of bio-statistics. Vital statistics. Methods of collection and classification of data. Presentation of statistical data. Frequency distribution, measures of central tendency, measures of dispersion. Analysis and interpretation of data. Sampling techniques. ADDITIONAL Information technology (IT)	• Lectures • Discussion • Classroom exercise	• Data processing	• Handout • Computer		• Written • Oral

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
IV. Epidemiology Concept of epidemiology Students will be able to: <ul style="list-style-type: none"> • Define and explain epidemiology • State the use and aims of epidemiology • State the components of epidemiology • Define different terms related to epidemiology Communicable disease, Non-communicable disease, Infectious disease, Contagious disease, Period of communicability, Period of infectivity, Incubation period, Infection, Infestation. Sporadic disease, Endemic disease, Epidemic disease, Pandemic disease, Zoonotic disease, Disease prevention, Disease control, Elimination, Eradication, Isolation, Quarantine	CORE Concept of epidemiology. Epidemiological triad. Types of epidemiological studies. Research methodology Community diagnosis. Investigation of an epidemic. Tools of epidemiological measurements. Screening tests Measurement of morbidity and mortality. Mode of transmission and principles of control of communicable diseases. Natural history of disease.	<ul style="list-style-type: none"> • Lecture • Self learning • Discussion • Problem solving exercise 		<ul style="list-style-type: none"> • Text book • Reading materials • OHT/ Slides • Video • Film strip 		<ul style="list-style-type: none"> • Written • Oral
Epidemiological Triad <ul style="list-style-type: none"> • Classify agents for causation of diseases • List the host factors responsible for diseases • Identify the environmental factors of disease causation • Explain epidemiological triad in causation of disease 	Indicators of health and their measurements. Levels of prevention of diseases.	<ul style="list-style-type: none"> • Lecture • Self study • Discussion • Problem with scenario exercise 		<ul style="list-style-type: none"> • Video • Film strip • OHT/Slides • Handout • Reading materials 		<ul style="list-style-type: none"> • Written • Oral

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/ visit	Aids		
IV. Epidemiology (Cont'd) Types of epidemiological studies <ul style="list-style-type: none"> Classify epidemiological studies Describe descriptive epidemiological studies Describe analytical studies Distinguish between prospective and retrospective studies Design and carryout a simple descriptive study 		<ul style="list-style-type: none"> Lecture Short presentation Discussion Classroom exercise Self study 	<ul style="list-style-type: none"> RFST 	<ul style="list-style-type: none"> OHT Study reports 		<ul style="list-style-type: none"> Written Oral
<ul style="list-style-type: none"> Investigate an epidemic outbreak Define and calculate rate, ratio, proportion Define screening for disease, types of screening and diseases to be screened in our country perspective. Explain the uses of screening on prevention of diseases Identify the criteria for screening of a disease and for selecting a test. Define specificity, sensitivity, validity, reliability and predictive value of a screening test. Explain different modes of transmission of diseases Explain the principles and different methods of control of communicable diseases Recognise the different phases of natural history of disease Describe the different levels of prevention and recognise their importance List important indicators for measuring health status in a community and mention their uses. 		<ul style="list-style-type: none"> Lecture Self study Classroom exercise Discussion Problem solving exercise 		<ul style="list-style-type: none"> Handout Video film or slide tape Posters & diagram 		<ul style="list-style-type: none"> Written Oral

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
IV. Epidemiology (Cont'd) Research Methodology and Community Diagnosis <ul style="list-style-type: none"> • Define community diagnosis • State different steps of community diagnosis • Understand basic concept of research. • Select a research topic • Select and construct objectives • Formulate research question/ hypothesis • Design methods • List variables • Select study population and determine sampling size • Choose appropriate sample • Construct questionnaire • Collect data • Analyse the data • Interview the target population for data collection • Analyse the collected data • Construct tables and prepare graphs for presentation • Identify different methods of data presentation • State different headings of a scientific report • Write a report 		<ul style="list-style-type: none"> • Lecture • Classroom exercise 	<ul style="list-style-type: none"> • Community survey • RFSTP 	<ul style="list-style-type: none"> • Computer • Photocopier 		<ul style="list-style-type: none"> • Report • Oral • Written

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
IV. Epidemiology (Cont'd) Conduct epidemiological case study to understand the need for surveillance of disease by following steps: <ul style="list-style-type: none"> • Select a priority case • Construct questionnaire putting clinico-social variables as much as possible • Interview the patient • Describe the case, taking care of all the variables studied • Write report 	ADDITIONAL Clinico social case study. Monitoring. Surveillance. Need and uses of screening tests.	<ul style="list-style-type: none"> • Short presentation • Classroom exercise • Discussion • Self study 		<ul style="list-style-type: none"> • Handout • Prepared questionnaire • OHT 		<ul style="list-style-type: none"> • Check-list • Assignment

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
V. Epidemiology of common health problems The students will be able to: <ol style="list-style-type: none"> Describe the epidemiological determinants (agent, host and environmental factors) of common health problems of Bangladesh. Illustrate the measures for prevention of common health problems in the community specially EPI diseases, Helminthiasis and Diarrhoeal diseases. Develop skills to identify common health problems in the community. Develop understanding to manage common health problems in the community. Appreciate the importance of epidemiological basis for causation and prevention of common communicable and non-communicable diseases in Bangladesh. Understand (explain) the importance of first aid in initial management of emergency cases. Develop skills for management of emergency cases in the community. 	CORE Epidemiology and management of diseases of public health importance: EPI diseases, diarrhoeal diseases, malaria, kala-azar, enteric fever, leprosy, rabies, viral hepatitis, chicken pox, mumps, filariasis, helminthiasis, STDs & AIDS, scabies Epidemiology of common non-communicable disease: Cancer, diabetes, hypertension, IHD, RHD and rheumatic fever Minor injuries, poisoning, arsenic poisoning, disaster, snakebite, drowning. ADDITIONAL Yellow fever. Geriatric problems.	<ul style="list-style-type: none"> Lecture Tutorial Group discussion Problem solving exercise Symposium (integrated) 	<ul style="list-style-type: none"> student project Visit to Leprosy hospital, T.B. clinic, ORT corner, ID hospital, dist. hospital Visit to Cancer Inst./ward, Diabetic Hospital RFST (THC) 	<ul style="list-style-type: none"> Video Film strip Real patient 		<ul style="list-style-type: none"> Written Oral Checklist

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
VI. Public Health Nutrition Students will be able to assess nutritional status & identify required measure by: (1) Record the data on Road to Health Card (2) Aware of normal values and range of indices used for assessment of growth, nutritional status and grades of malnutrition (3) Interpret data and arrive at nutritional status of the child (4) Diagnose different types of malnutrition e.g. (Vitamin deficiency, PEM) (5) Outline a plan for dietary management of malnourished child	CORE <ul style="list-style-type: none"> Proximate principles of food. Balanced diet. Vitamins and their deficiency diseases. Trace elements: iron, iodine, fluorine. Pasteurization Assessment of nutritional status. Calorie requirements of different groups. Dietary composition of common food items. Preparation of suitable diet for expecting mother & malnourished child Protein energy malnutrition. Food born diseases Milk borne diseases Different types of hospital diet 	<ul style="list-style-type: none"> Classroom exercise Lecture Tutorial Group discussion Self study 	<ul style="list-style-type: none"> RFST/MCH clinic RFST (children outdoor/school) Measuring nutritional status ANC/MCH clinic/RFST 	<ul style="list-style-type: none"> Handout Reading material Weighing machine Sakip's tape Measuring tape Growth chart Video show 		<ul style="list-style-type: none"> OSPE Written Oral Practical exam. (spotting) Checklist

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
VI. Public Health Nutrition (cont'd) (6) Assess the prevalence and types of malnutrition in the community by different methods: (i) dietary survey (ii) anthropometry (iii) clinical examination (7) Identify the groups most seriously affected by malnutrition (8) List the food borne and milk borne diseases (9) Define pasteurization and identify different methods of pasteurization	ADDITIONAL <ul style="list-style-type: none"> Food additives and preservatives. Trace elements except iron, iodine, fluorine Food adulteration and food fortification 	<ul style="list-style-type: none"> Group discussion Problem solving class 	<ul style="list-style-type: none"> Survey 	<ul style="list-style-type: none"> Poster Charts Slides Questionnaire 		<ul style="list-style-type: none"> Oral Assignment

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
VII. MCH –FP & Demography Students will be able to: <ol style="list-style-type: none"> 1. Explain the magnitude of maternal mortality and morbidity in Bangladesh 2. Identify factors influencing maternal health 3. List factors responsible for high maternal mortality and morbidity in Bangladesh 4. Identify the measures for reducing maternal mortality and morbidity in Bangladesh 5. Identify the organisations for providing maternal health services rendered by them in urban and rural area during <ol style="list-style-type: none"> (a) antenatal (b) intranatal and (c) post-natal period 6. Identify the different categories of health personnel and their functions for rendering maternal and child health care both in hospital and community settings. 	CORE Importance of antenatal care, antenatal advice and antenatal investigations. Identification of high risk cases and appropriate referral. Immunization of children & women IMR, MMR and causes of infant mortality and maternal mortality Breast feeding and weaning Concept of family planning Different contraceptive methods Counselling in family planning MCH-FP services in Bangladesh Factor influencing deliveries at home and in hospital.	<ul style="list-style-type: none"> • Lecture • Problem solving class with scenario exercise • Brain storming session 		<ul style="list-style-type: none"> • Reading materials • OHP transpare-ncy 		<ul style="list-style-type: none"> • Oral • Written

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
VII. MCH-FP & Demography (cont'd) Child Care 1. Aware about the normal birth weight of a baby 2. Identify risk factors for low birth weight 3. Identify the interventions of low birth weight 4. Explain the care for the new born 5. List the conditions for artificial feeding 6. Design & promote the use of adequate home made weaning foods Family planning 1. State the aims and objectives of family planning 2. List various contraceptive methods with their advantages & disadvantages 3. Identify the factors responsible for high population growth rate in Bangladesh 4. Plan and conduct a counselling session for motivation of eligible & target couples towards following contraceptive methods: (a) IUCD (Intra uterine contraceptive device) (b) Oral pill (c) Condom (d) Menstrual regulation (e) Abortion (f) Permanent sterilization		<ul style="list-style-type: none"> Lecture Group discussion Brainstor--ming Group work Class room exercise Role-play 	<ul style="list-style-type: none"> RFST (informal interview) Model FP clinic (counselling) 	<ul style="list-style-type: none"> OHT Video Slide Different contraceptives 		<ul style="list-style-type: none"> Oral OSPE Written Checklist

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/ days	Assessment
		Class-room	Practical/visit	Aids		
VII. MCH-FP & Demography (cont'd) Immunization of children in the community 1. Assess level of immunization of children in the community by: (a) Study of records (b) Enquiry from mother 2. Find out reasons for low or high immunization status and drop out cases 3. Explain the storing of vaccines and maintaining cold chain at Thana and Union level 4. Describe the recommended immunization schedule for infants and children 5. List the contra-indications for immunization 6. List the complication for immunization 7. Plan and organize an immunization session in the community Breast Feeding 1. Explain to mothers value of breast feeding, nutritious weaning foods and frequent feeding of young children		<ul style="list-style-type: none"> Lecture Tutorial Short presentation 	<ul style="list-style-type: none"> RFST (interviewing mothers) Discussion with HA, mother RFST (EPI store-room visit) Demonstration RFST (satellite clinic, community clinic) Model FP clinic (interaction with mothers) 	<ul style="list-style-type: none"> EPI record at TH&FPO Office Questionnaire Textbook UNICEF/WHO publication OHT Slide Vaccines Appliances 		<ul style="list-style-type: none"> Oral Check List Written

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours /days	Assessment
		Class-room	Practical/visit	Aids		
VII. MCH-FP & Demography (cont'd) Demography 1. Define terms: <ul style="list-style-type: none"> - Demography, crude and specific birth, growth and fertility rates 2. Explain demographic cycle in understanding various population trends 3. Describe factors influencing population growth in Bangladesh 4. Appreciate factors influencing fertility like: <ul style="list-style-type: none"> - age at marriage - breast feeding - contraception - education - religion 5. Aware age and sex structure and its influence on: <ul style="list-style-type: none"> - population growth - health service - disease trends 6. Demonstrate awareness of different age and sex structures by interpreting a given data.	Demography Demographic processes Demographic cycle Demographic indices Population pyramid	<ul style="list-style-type: none"> • Lecture • Discussion • Classroom exercise 		<ul style="list-style-type: none"> • Handout • Posters & diagrams • Video 		<ul style="list-style-type: none"> • Written • Oral

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours /days	Assessment
		Class-room	Practical/visit	Aids		
VIII. Health Education Students will be able to: <ol style="list-style-type: none"> Aware about the elements of communication Aware about the barriers of communication Describe the methods of communication List the aims of communication Select and use suitable method & media for communication of individuals and groups Define health education Narrate its objectives and principles State the stages of adoption of new ideas and practices State the different media in health education Choose and use of appropriate media and method for selective health education programmes of individuals and groups 	CORE Communications. Principles of health education. Media and methods of health education. Planning a health education programme Need for using safe water, proper nutrition, contraception and personal hygiene.	<ul style="list-style-type: none"> Lecture Short presentation Discussion Demonstration Role play 	<ul style="list-style-type: none"> Visit MEU Project work Observation of barriers of communication at HC/OPD/IPD Participate HE session at THC 	<ul style="list-style-type: none"> Video Models Specimen Handout Posters Flip chart Slides OHTs Family planning materials 		<ul style="list-style-type: none"> Written Oral Observational check-list
<ol style="list-style-type: none"> Prepare simple health educational materials Plan health education session Conduct health education session on: <ol style="list-style-type: none"> use of safer water proper nutrition use of contraceptives maintenance of personal hygiene breast feeding & weaning demonstration of ORS preparation benefits of immunization referrals during emergency 			<ul style="list-style-type: none"> Assignment Conduction of HE session 			<ul style="list-style-type: none"> Checklist

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
IX. Medical Entomology Students will be able to: 1. Define and classify arthropods of medical importance 2. State the role of vectors in causation of diseases, including the bio-nomics of arthropods of medical importance. 3. Describe the principles of vector control	CORE Arthropods of medical importance Role of vectors in causation of diseases. Arthropod-bone diseases. Principles of Vector control ADDITIONAL Commonly used insecticides	<ul style="list-style-type: none"> • Lecture • Tutorial with Model • Tutorial 	<ul style="list-style-type: none"> • Viewing of models and slide under microscope 	<ul style="list-style-type: none"> • Model • Entomological slides 		<ul style="list-style-type: none"> • Written • Oral

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours /days	Assessment
		Class-room	Practical/visit	Aids		
X. Environment & Health Students will be able to: (a) Define environment and describe its various types (b) State the causes of water pollution (c) Explain the methods of purification of water in small scale (d) State the criteria for water quality including WHO standards for drinking water (e) List important water borne diseases (f) List the sources of different types of air pollution and their health effects (g) Describe global green house effect (h) Describe the essential features of water seal latrine (i) Describe biological process of Septic Tank	CORE Introduction to Environment Water pollution Water purification on small scale Water quality standard Water born diseases Biological process of Septic Tank Water seal latrine Air pollution Green house effect.	<ul style="list-style-type: none"> • Self learning • Lecture • Short presentation • Discussion • Demonstration 	<ul style="list-style-type: none"> • Visit to PHE dept. • Practical in the Departmental Laboratory (to be developed) 	<ul style="list-style-type: none"> • Handout • OHT • Laboratory equipment (to be procured) 		<ul style="list-style-type: none"> • Written • Oral • Practical

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
X. Environmental Health (cont'd) a) Describe different types of large scale water purification plant b) Types of ventilation & effects on health c) State the effects of radiation on health d) State of importance of hospital incineration and describe the mechanism of incineration	ADDITIONAL Large scale water purification Ventilation: air conditioning Radiation Hospital incineration					

Learning Objectives	Contents	Teaching/ Learning experiences			Expected hours/days	Assessment
		Class-room	Practical/visit	Aids		
XII a) Primary Health Care 1. Define Primary Health Care (PHC) and Health For All (HFA) 2. Explain principles of PHC 3. List the components of PHC 4. List the components of ESP 5. Involve community in identifying priority health problems 6. Describe the organisational structure in delivery of PHC in Bangladesh 7. Aware about the goal of Health For All (HFA) in the context of Bangladesh 8. Understand the strategies of PHC in attaining the goals of HFA 9. Aware of our national health programmes 10. Recognise important international health organizations and list their programmes 11. Aware of the application of international health regulations in our country	CORE a) Primary Health Care Concept of Primary Health Care and Health for All. History of PHC. Definition of PHC. Principles and components of PHC. Strategy of PHC Essential Services Package (ESP) (b) National health programmes. (c) International health organizations (d) International health regulations. ADDITIONAL Non-Governmental 5 Organisations National health surveillance	<ul style="list-style-type: none"> • Lecture • Self study • Short presentation • Discussion 	<ul style="list-style-type: none"> • Reading assignment on publication related to PHC • Organising day visit • Visit to health institutions which delivery PHC • Conducting a survey on PHC components (RFSTP) • Visit to outreach centre, satellite clinic & community clinic 	<ul style="list-style-type: none"> • Handout • OHT • Reading materials 		<ul style="list-style-type: none"> • Oral • Written • Report writing on visits related to PHC Survey

Summative assessment of Community Medicine 2nd Professional Exam

Assessment systems and mark distribution

Components	Marks	Total Marks
Formative assessment	10	10
WRITTEN EXAMINATION MCQ (10-20 Questions to be answered) SAQ (12 Questions to be answered) + Long Essay Question (one question to be answered)	20 70	90
PRACTICAL EXAMINATION Conventional Practical / OSPE Report on a survey / preliminary research Report on Day Visit Assessment on residential Field site Training Program	30 30 20 20	100
ORAL EXAMINATION (Structured) 2 Tablets		100
Grand Total		300

- There will be separate Answer Script for MCQ
- Pass marks 60 % in each of theoretical, oral and practical

TIME ALLOCATION FOR COMMUNITY MEDICINE CURRICULUM

Students' Time				
	SUBJECT	LECTURE	TUTORIAL	DAY VISIT
1.	INTRODUCTION TO CM	06 hours	06 hours	01 day
2.	BEHAVIOURAL SCIENCE	08 hours	14 hours	04 days
3.	BIOSTATISTICS	08 hours	08 hours	—
4.	HEALTH EDUCATION	04 hours	08 hours	02 days
5.	NATIONAL & INTERNATIONAL HEALTH	04 hours	04 hours	03 days
1ST PART SUB-TOTAL		30 hours	40 hours	10 days
6.	EPIDEMIOLOGY	12 hours	24 hours	03 days
7.	EPIDEMIOLOGY OF COMMON HEALTH PROBLEMS	30 hours	24 hours	10 days
8.	PUBLIC HEALTH NUTRITION	08 hours	12 hours	03 day
9.	MCH-FP	12 hours	18 hours	03 day
10.	IMMUNITY, DISINFECTION & STERILIZATION	10 hours	10 hours	—
11.	DEMOGRAPHY	04 hours	04 hours	—
12.	ENTOMOLOGY	06 hours	06 hours	02 days
13.	ENVIRONMENT AND HEALTH	04 hours	04 hours	03 days
14.	OCCUPATIONAL HEALTH	06 hours	06 hours	02 days
15.	PRIMARY HEALTH CARE & PHAd	06 hours	10 hours	04 days
16.	DISASTER	02 hours	02 hours	—
2ND PART SUB-TOTAL		100 hours	120 hours	30 days
GRAND TOTAL		130 hours	160 hours	40 days

Residential Field Site Training Program

The Residential Field Site training Course for Fourth Year Students is an integral part of the curriculum. The way the course has been developed allows many disciplines to increase the community orientation of their teaching.

The Head of Department of Community Medicine supported by the Field Site Training Sub-Committee is in overall charge of the programme on behalf of the Principal. The content and the teaching methods used in the courses involving individual disciplines is however the responsibility of the head of the Thana Health Complex. The latter are also responsible for staff allocation although this is supervised by the Department of Community Medicine.

Teaching Programme

Two courses of one week's duration will run simultaneously.

Twelve students will have a weeks course in Community Placement week and 12 will have a course in Primary Care week.

In the second week of their course the students will change courses.

The timing of the teaching sessions are as follows:

Session 1 :	08.30 a.m. –10.30 a.m.	Learning activities
Session 2 :	11.00 a.m. – 01.00 p.m.	Learning activities
Session 3 :	03.00 p.m. – 05.00 p.m.	Review of experience
Session 4 :	07.00 p.m. – 08.30 p.m.	Discussion & Debate

The allocation of the days teaching to the disciplines involved in the “Primary Care” week is as follows:

Day 1	Community Obstetrics
Day 2	Community Ophthalmology and Otolaryngology
Day 3	Immunization and Family Planning
Day 4	Medicine and Microbiology
Day 5	Community Surgery/Orthopaedics
Day 6	Community Paediatrics

The programme has been based on the functions of non-specialised doctors in providing primary health care at community and primary care level. Lesson plans have been produced and the learning objectives have been derived from an analysis of the tasks performed by such doctors. Teachers should therefore follow the curriculum closely and not deviate to teach on other subjects. This is especially important as the students' assessment at the end of the course will be based on the learning objectives.

From the outset it was felt that the lecture format would be an inappropriate method of teaching at the field site and it was arranged that any prerequisite knowledge which could be taught by lecture should be taught at the Medical College prior to the course at the THC. At the most a mini-lecture to reactivate existing knowledge can be given at the commencement of teaching but thereafter it is planned that teaching methods should consist mainly of observation and participation by the students, plus discussions and other small group techniques.

Role of the Thana Health Complex Doctors

The doctors stationed at the Thana Health Complex (THC) practise the type of medicine on which the course is based. They have therefore been given a role in the teaching programme which is specified in the lesson plans. They should be involved in the teaching as much as possible. The doctors of the THC will take care of students for Primary Care week. The staff of the THC will be trained up by the Faculty of respective Medical College. Clinical teachers are also encouraged to participate in the activities of Primary Care Week where and whenever they feel it necessary.

Thana Health Complex

The use of the teaching facilities, access to patient areas and employment of THC staff are all under the control of the Thana Health and Family Planning Officer (TH & FPO), and teachers from medical college must respect his/her authority in these matters.

Apart from the outdoor, ward and laboratory area two rooms are available for teaching sessions. These are the classroom and the Resident Medical Officer's room.

Transport

Two microbus of twelve seats capacity would be engaged for taking students from the College campus to the Thana Health Complex. The bus will leave the Medical College at 7 o'clock in the morning usually on Saturdays and leave the Thana Health Complex at 6 o'clock in the evening on Thursdays.

The driver of the micro-bus has a fixed schedule to follow. This is under the control of the Principal. Any change in the travel schedule at the Thana Health Complex can only be authorised by the Thana Health Family Planning Officer, or his/her deputy, or by teacher from the Department of Community Medicine.

Accommodation

There are two dormitories both with twelve beds for the students. In each dormitory there are two single rooms for medical college teachers. Each room has electric lights & a fan. Sweepers and guards are under the control of the TH&FPO.

Meals for students and staff will be prepared and served by staff working under the supervision of the TH&FPO.

The THFPO will delegate the responsibility for the management of the accommodation to one of his administrative officers. Staff members wanting to ask about anything related to accommodation r meals should speak to the administrative officer in the first instance.

Food arrangement

Meal schedule would be as follows:

07:00 a.m. to 08:00 a.m. - Breakfast
10:00 a.m. to 10:30 a.m. – Tea & cookies
01:00 p.m. to 02:00 p.m. – Lunch
05:00 p.m. to 05:30 p.m. – Tea & cookies
08:30 p.m. to 09:00 p.m. – Dinner

This timetable may sometimes change for specific work schedule.

Games

Arrangement for badminton, caromboards and volleyballs could be made available at the dormitories.

Students may take their own music player or Walkman. But no loud music will be allowed in the dormitories. No music is allowed after 10:00 p.m.

Student supervision

Supervision of the students is the responsibility of the medical college teachers and TH&FPO. Staff have a particular responsibility to ensure that the students' behaviour does not cause any inconvenience or upset to the general public.

Students are expected to raise all problems with the teacher and not with the THC staff. In the case of illness a student who wishes to go home or who has been advised to go home by a doctor should obtain the permission of the teacher before leaving.

Community Placement Week

Community Medicine Teaching Programme

Residential Field Site Training Course

COMMUNITY PLACEMENT WEEK

CONTENTS

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Day 1	Supervision of field health workers	
Day 2 & Day 3	Community health survey	
Day 4	Run MCH Services <ul style="list-style-type: none">• Health Education in MCH• Immunisation	
Day 5	Maintain health information records Intra & Inter-sectoral collaboration	
Day 6	Promotion of Health	
	Activity Schedule for Community Placement Week	
	Sample Questionnaire for Field Site Epidemiological Survey	
	Glossary	

Day –1

Supervision of Field Health Workers

Learning Objectives	Prerequisite knowledge	Methods		Aids	Assessment
		Teachers role	Students role		
Day-1					
1. Organogram of THC, demography of Thana	Students should have the idea regarding THC	TH&FPO will prepare lecture & deliver	Students will participate		
2. Students should be able to list the field health workers and describe their activities	Students should know the health problems and who prevents and controls them	Teachers will introduce health workers and their activities	-do-	Job manual Thana map Blackboard	
3. Student will know how to use a check list	Should know where & how check list is used	Teachers help along with TH&FPO + MO, MCH, TFPO	-do-	Checklist available from respective authority	
4. A) Know how to collect blood slides to detect M.P, sputum for FB etc. and from where.	Should know indication of blood slide & AFB examination	Talk with respective Health Workers	-do-	Glass slide box, pot for sputum	
B) Explain how Vitamin 'A' capsules are distributed and administration and the scheduled time for this	Function of Vitamin 'A' and its potency	Talk with distributor and administration	-do-	Supply Vitamin 'A' Information on target population	
C) Supervise the activities of field workers who are treating diarrhoea with ORS	Necessity of health education to the community	Preparation and administration	-do-	Materials	
5. How to give health education to the Community Students will be able to name the field level supervising staff and describe their supervisory roles	Benefit of supervision of any work plan	Talk with Health Workers	-do-	OHP, Audio-Visual	
		Teachers will introduce the AHI, HI, & SI and discuss their supervising methods	-do-	Job manual and appointing process by govt.	

Day 2 & Day 3 -

Design Community Health survey

Learning Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p><u>Day 2</u></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Estimate sample size and identify target population and study place Identify target population, visit houses and collect data <p><u>Day 3</u></p> <ul style="list-style-type: none"> Collect data Compile and analyse data Interpret results Write report Present study findings 	<ul style="list-style-type: none"> Selected a health topic for community survey by information from hospital records and personal communication from local health personnel Formulate general and specific objectives of the survey Design survey and structure an instrument Research methodology Record keeping Biostatistics Computer coding Technique of report writing Methods of presentation Routes of dissemination 	<p><u>Day 2</u></p> <p>1st session – Identification of target population and study site</p> <p>2nd session - Data collection</p> <p>3rd session - Data collection</p> <p>4th session - Group discussion on experience</p> <p><u>Day 3</u></p> <p>1st session – Data collection</p> <p>2nd session – Compilation and interpretation</p> <p>3rd session – Report writing</p> <p>4th session – Discussion</p>	<ul style="list-style-type: none"> Chalk blackboard Microphone Computer Overhead projector 	<ul style="list-style-type: none"> MCQ Practical assessment Feedback after each fraction of work

**Day 4 – Run MCH Services:
Health Education in MCH
Immunization**

Learning Objectives	Prerequisite knowledge	Methods		Aids	Assessment
		Teachers role	Students role		
<u>Day-4</u> Students will be able to: <ol style="list-style-type: none"> 1. describe how the cold-chain is maintained 2. Vaccinate pregnant mothers, women of 15-45 years age, children. They will be able to identify target population & to provide health education on MCH 3. Describe the beliefs & superstitious & attitudes of the public with respect to maternal & child health and immunisation. They will learn immunisation coverage, target, dropout motivation and community participation 4. Explain about Role of Health Education & Vaccination in reducing maternal and child mortality 	Knowledge about cold-chain, vaccines, ILR, temperature recording, transportation of vaccines at out-reach centres Knowledge about immunisation composition of vaccines, vaccination technique, contraindication, side-effects and also knowledge about health education on MCH Knowledge about problems of reaching targeted coverage, motivation, community participation Knowledge about health education and its role in reducing maternal & child mortality. Knowledge about vaccination against six preventable communicable disease which may save lives of mother & children	Teachers/M.O. EPI, EPI tech. Will show vaccine store room, cold-box, ILR, etc. discuss about cold chain maintenance at THC Respective officer or Inspector/ Health Workers will show the technique of vaccination in the out-reach centre. They will teach the technique of giving health education to the mother on MCH at out-reach centre Discussion on target coverage, dropout causes, side effects of vaccination, motivation & community participation by the Teacher/ M.O. EPI/ TH&FPO/ Inspector at THC Discussion on child & maternal mortality. Merits, demerits of vaccination of 6 preventable EPI diseases by the teacher/TH&FPO/ MO. EPI	Students will observe the system & will participate in the discussion Students will observe the technique & will vaccinate. They will give health education at the vaccination site Students will take part in the discussion. They will exchange views, opinions, knowledge gathered from the field Students will participate activity in the discussion	Vaccines, ILR, Refrigerator, Cold-box, strip thermoscope, vaccine carrier, blackboard, OHP, etc. Vaccines, syringe, needle & other necessary materials Blackboard, OHP, Audio-Visual Aid Blackboard, OHP, Audio-Visual Aid	Practical Test Practical Test Short question & answer By giving problem By giving problem

Day 5 – Session 1 & 2:**Maintain Health Information Records**

Learning Objectives	Prerequisite Knowledge	Methods	Aids	Assessment
<p><u>Day-5</u></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Define data, information intelligence Locate various sources of data and select appropriate method of data collection Compile and store data properly Analyse data adopting good technical skill Interpret the results of data analysis Present findings in a palatable way Prepare a report Disseminate information to various levels 	<ul style="list-style-type: none"> Knowledge about data, information and intelligence Sources of data Various methods of data collection Techniques of compilation Knowledge about analysis Data entry into the computer Interpretation and report correcting Knowledge about various channel of communication 	<p>Teachers activity:</p> <ul style="list-style-type: none"> Teacher will inform and orient about the task Teacher will give information about sources of data in the thana (EPI, MCH, TFP, OPD, IPD, Emergency registrar, Hospital record room, Register of statistician) Teacher will introduce the student M/O EPI, M/O MCH, TFPO, Record Keeper, Statistical Officer and other related person who maintain various records in Thana Level <p>Students activity:</p> <ul style="list-style-type: none"> They will observe and learn Student will collect data from various sources necessary for their task, compile and prepare information as model practice One student will present the information and tell about its maintenance – according to task given <p>Teachers activity:</p> <ul style="list-style-type: none"> Teacher will guide them and help in the situation where they face any difficulties Assessment of the knowledge and achievements and give necessary advise to improve. 	<p>-Chalk blackboard</p> <p>-microphone & overhead projector</p> <p>-video</p> <p>-computer</p>	<p>-MCQ</p> <p>-Practical assessment</p>

Day 5 (cont'd) – Session 3:

Intra and Inter-sectoral Collaboration

[illegible]

Sample
Check list of Field Site Training
on
Intra and Multisectoral Collaboration

Name of sector	Index of linkage	Yes	No	Personnel involved	List out		Remarks
					Logistics	Support programme	
Family Planning Department	Committee						
	Logistics						
	Support Program						
Department of Public Health Engineering	Committee						
	Logistics						
	Support Program						
Department of Education	Committee						
	Logistics						
	Support Program						
Department of Social Welfare	Committee						
	Logistics						
	Support Program						
Department of Agriculture	Committee						
	Logistics						
	Support Program						
Department of Ansar & VDP	Committee						
	Logistics						
	Support Program						
Department of Co-operative	Committee						
	Logistics						
	Support Program						
BRDB	Committee						
	Logistics						
	Support Program						

Name of sector	Index of linkage	Yes	No	Personnel involved	List out		Remarks
					Logistics	Support programme	
Police Station	Committee						
	Logistics						
	Support Program						
Department of Livestock	Committee						
	Logistics						
	Support Program						
Department of Fisheries	Committee						
	Logistics						
	Support Program						
Project Implementation Office	Committee						
	Logistics						
	Support Program						
Local Govt. Engineering Bureau	Committee						
	Logistics						
	Support Program						
Thana Nirbahi Office	Committee						
	Logistics						
	Support Program						
Union Parishad	Committee						
	Logistics						
	Support Program						
NGOs	Committee						
	Logistics						
	Support Program						

Day 6 – Session 1 to 4:

Promotion of Health

Learning Objectives	Methods	Aids	Assessment
<p><u>Day-6</u></p> <p>Students will be able to:</p> <p>Provide health education on pattern of prevailing communicable diseases in the Thana and their epidemiology giving emphasis on prevention and control of communicable diseases</p> <p>Motivate the people for:</p> <ul style="list-style-type: none"> • Use of tubewell water for drinking and all other purposes • Use of sanitary latrine • Maintain personal hygiene specially use of soap for hand washing 	<ul style="list-style-type: none"> • Visiting about 5-6 houses in the villages • Discussion and counselling in presence of head of the family • Arrangement of small group session in presence of local leaders • Give talk to public about specific disease 	<p>Flip Chart</p> <p>Posters</p> <p>Model</p> <p>Water seal latrine</p>	<ul style="list-style-type: none"> - Observation by supervisor - Answer and explanation of any queries - Asking question - Feedback - Presentation

Activity Schedule for Community Placement Week

Day 1

08:00 a.m.	Introduction to RFST Course- objective, methodology, role of student
09:00 a.m.	Introduction of Thana demography by TH&FPO Introduction to health team working in THC
10:30 a.m.	Divide the class into three or four groups and visit the community along with the community level worker. Discuss with the workers their job description, records they maintain (HA/FWA)
12:00 m.d.	One of the supervisors joins the group e.g. Health Inspector/ Assistant Health Inspector. Discuss methods of supervision. The staff carry out a health education programme in the community. Students observe the education programme, if any, and use the check-list.
03:00 p.m.	Class room session. Each group presents their observation so that whole class knows what each group has learned. Community medicine faculty members will supplement whenever necessary.
07:00 p.m. to 08:00 p.m.	Class room session. Review principles of Health education. Comment on the days education programme. How can it be improved? If specimens were collected examine them now. Report on the days visit to be submitted. This will form part of the assessment

Day 2

Community diagnosis.

Assumption – students had lectures on natural history of disease, epidemiological triad.

08:00 a.m.	Discuss the designed survey to make a community diagnosis. State objectives, methodology, discuss the details of the questionnaire. Provide guidelines for using the questionnaire (prepared earlier at college).
09:00 a.m. – 05:00 p.m.	Visit previously identified community. Allot 5 –10 houses per student. Collect information. (Provide dummy tables. Analysis to be done as home work)

Day 3

08:30 a.m.	Collect information
11:00 a.m. –01:00 p.m.	Complete analysis data Collate data of all students into one set of table. Present data in tables and graphs. Draw conclusions.
03:00 p.m. –05:00 p.m.	Write report Community diagnosis Prioritise health problems and needs of community Identify topics for health education
07:00 p.m. –08:30 p.m.	Presentation of report and discussion of major findings

Day 4

08:30 a.m.	Continue discussion specially issues related immunisation, ANC, FP and ORT
10:30 a.m. – 01:00 p.m.	Discuss of cold chain and immunisation strategies by field staff. Involve in the immunisation program in the out clinic or satellite clinic. Students should give injection/ OPV under supervision and also education to each mother.
03:00 p.m. – 05:00 p.m.	Identify three topics for health education. Students working in three groups will prepare for the health education to be done in the community. Identify message messenger and media. Encourage students to use innovative methods and folk media and their own flip charts.

Day 5

Health information system and intersectoral collaboration

08:30 a.m. to 01:00 p.m.	<p>Review the information system as identified during the first days field visit with field staff.</p> <p>Identify sources of secondary data. Discuss advantages and disadvantages. Collect, compile and prepare information from one month data – outdoor, indoor and other available data.</p> <p>Discuss problems encountered. How to improve the quality of data and to validate (in the class room)</p>
03:00 p.m. – 05:00 p.m.	<p>Site visit to other sectors in three groups. Each group will visit one or two sectors.</p> <p>Discuss in detail the organogram of the sector, activities, interaction with health sector if any.</p> <p>If not discuss why and how it can be done. Students will write the report based on the guidelines given to them</p>
07:00 p.m. – 08:00 p.m.	<p>Report to the rest of the class their observations.</p> <p>Finalise health education program.</p>

Day 6

08:30 a.m. - 10:00 a.m.	Classroom exercise on investigating an epidemic (if happened in the locality).
10:30 a.m. –01:00 p.m.	Carry out health education in the community. Preferably the community where the survey was done. Out door clinic and indoor patients may also be used.
02:00 p.m. – 04:00 p.m.	Sum up session – share learning experiences. Students assessment.

Draft Structured Questionnaire For Field Site Epidemiological Survey

This questionnaire should be completed by students after interviewing the head of household or an adult. For some questions, may need to interview an adult female member of the family.

SECTION A: GENERAL DETAILS

1. Name of village : _____
 2. Name of Union : _____
 3. Name of Thana : _____
 4. Name of Head of family : _____
 5. Name of person interviewed : _____
 6. Name of student (s) : _____
- Batch / Group: _____ Roll : _____ Year : _____

SECTION B : HOUSEHOLD DETAILS

8. Please state number of people in the family (oldest member of family first)

	Name	Relationship to head of family	Sex	Age	Occupation	Education Level achieved
I						
II						
III						
IV						
V						
VI						
VII						
VIII						
IX						
X						

9. Type of housing? Pucca (building) / tin roof / thatched : _____

10. Family income per month : _____
 If landowner, approx. amount of land owned : _____
11. Disposal of excreta? Sanitary latrine / Insanitary latrine / Open air latrine :

12. Source of drinking water? Tubewell/ River / Pond / Others
 Of others, please specify: _____

SECTION B: MATERNAL HEALTH AND FAMILY PLANNING
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13. Any pregnancy in the household ending within the last 12 months (excluding current pregnancy)
 Yes / No: _____
 If yes, outcome baby : normal alive/ abnormal alive / dead
 Outcome mother : alive / dead
- Was there any complications?
- a) During the pregnancy (before delivery)
 e.g. anaemia, pre-eclampsia : Yes/ No
 If yes, specify : _____
- b) At the time of delivery: Yes / No
 If yes, specify : _____
- c) After delivery e.g. fever, painful
 perineum, urinary incontinence : Yes / No
 If yes, specify : _____
14. Who attended the pregnant woman at the time of delivery?
 TBA / FWV / others
 If others, please specify : _____
 If other why did the family not contact a health worker?
- a) Not aware of any health worker (HW) in the village
 b) Aware but did not wish to see the HW
 c) Aware but HW too far to visit and she did not come to the village
 d) Other reasons, specify: _____

15. Where was the place of delivery? : Home / Hospital
16. Is there any body currently pregnant in the family? : Yes / No
If yes, duration : _____ months
17. Any tetanus vaccine (TT) given to women during current or previous (within last 12 months) pregnancy? : Yes / No
If yes, numbers of doses : _____
If not given, because of :
a) Not necessary (already received 5 doses)
b) Not aware of the need for TT
c) Aware but did not wish to have it
d) Aware but clinic too far away
e) Other specify: _____
18. Practice of Family Planning
Male : Yes / No
If yes, type: Condom / Vasectomy / Other, specify: _____
If no, reason: _____
Female : Yes / No
If yes, type: Oral pill / Injection / IUCD / Ligation / Other, specify: _____
If no, reason : _____

SECTION D: CHILD HEALTH

19. Immunisation status of under 5 children (check immunisation card if available)
- | | <u>Child 1</u> | <u>Child 2</u> | <u>Child 3</u> | <u>Child 4</u> | <u>Child 5</u> |
|-------------|----------------|----------------|----------------|----------------|----------------|
| DPT 1, 2, 3 | | | | | |
| OPV 1, 2, 3 | | | | | |
| BCG | | | | | |
| Measles | | | | | |
| None given | | | | | |

If none given, because of:

- a) Not aware of the need for vaccine
b) Aware but not wish to have it
c) Aware but clinic too far away
d) Other, specify: _____

20. Breast feeding of under 5

	<u>Age</u>	<u>Duration of suckling</u>	<u>Weaning time</u>
a)			
b)			
c)			
d)			
e)			

21. Anthropometry of under 5:

Mid upper arm circumference (MUAC) and / or height and weight

	<u>Age</u>	<u>Wt in Kg</u>	<u>Ht in Cm</u>	<u>MUAC Cm</u>
a)				
b)				
c)				
d)				
e)				

SECTION E : MORBIDITY

22. Below is a list of diseases. Please indicate if anybody in your household currently suffers from any of these.

<u>Diseases</u>	<u>No. of persons affected</u>	<u>Age</u>
Diarrhoeal disease		
Helminthic infection		
Scabies		
Other skin infection		
Cataract		
Eye infection		
Vit, A deficiency (child night blindness)		
Dental caries		
Chronic suppurative otitis media		
Tuberculosis		
Acute respiratory infection		

23. Any physical disabilities in the family?

: Yes/ No

If yes, please specify: _____

24. Who do you normally contact first if any of your family become ill?

Government doctor / Un-qualified doctor / Homeopath / Hakim (Kabiraj) / Others

If other, specify : _____

If not government doctor, give reason : _____

SECTION F: MORTALITY

25. Has there been any death in the household within the last 5 years?

If yes:

	<u>Age at death</u>	<u>Sex</u>	<u>Possible cause of death</u>
a)			
b)			
c)			
d)			
e)			

SECTION G: KNOWLEDGE, ATTITUDE AND PRACTICE

26. Illness related to smoking

27. ORS and its preparation / use

28. Personal hygiene

29. Transmission of infectious disease e.g. malaria, dysentery etc.

PRIMARY CARE WEEK

Outline of Residential Field Site Training Course

Primary Care Week

Session	Topic	Venue and Activity
Day 1 - Community Obstetrics		
1	The epidemiology of maternal mortality and morbidity. Strategies for reducing maternal mortality, - antenatal screening - emergency obstetric care - promoting socio-cultural change.	Visit obstetric unit Visit home of dai
2	Antenatal care – screening for risk factors. Gynaecological complaints seen at primary care level. Women’s views on the maternity services.	Attend in rotation - antenatal clinic conducted by FWV - Female outdoor clinic - Ward visit with MO/MCH or RMO
3	The maternity services in the Thana and its under-utilisation.	Talk by MO/MCH in class room small group discussion
Day 2 - Community Otolaryngology		
1 & 2	Common infections of the ear, nose and throat which are treatable at the THC.	Teaching in classroom Attend outdoor clinic
3	Reasons why patients are late in presenting with ENT conditions. Health education concerning ENT infections.	Small group teaching in classroom
Community Ophthalmology		
1	The treatment of eye disease by unqualified doctors. Collaboration with unqualified doctors.	Visit village doctors home
2	Common eye conditions and their management at primary care level. The role of medical assistants in eye disease.	Thana Health Complex
3	Easily detected visual defects in children.	Visit local primary school
Day 3 - Immunization & Family Planning		
1 & 2	Immunisation. Women’s and men’s attitudes to family planning. - Provision of family planning at primary care level.	Students will attend - EPI Centre - Family planning clinic at FWC / THC
3	Promoting family planning – the role of staff at the Thana and Union level.	Small group teaching in classroom RPO to take part and give talk

Session	Topic	Venue and Activity
Day 4 - Medicine (communicable & non-communicable diseases) and Microbiology		
1	Common medical problems with sequelae, namely-scabies, hepatitis, tuberculosis, helminthiasis, diarrhoea, ARI, malaria and endemic diseases. Prevention of these conditions. Communication with patients about these diseases.	Teaching in classroom – MO to take part in this session Ward visit Attend outdoor clinic-Teaching by MOs Collection of laboratories Specimens
2	Common medical problems continued. Prevention of long term complications of diabetes, rheumatic fever and rheumatoid arthritis.	Ward visit Attend outdoor clinic, with teaching by MOs.
3	Common laboratory tests carried out in the Thana Health Complex – smear and staining for AFB, blood films for malaria, chemical and microscopic examination of the urine, stool, fungal infection.	Practical work in laboratory
4	The effect of illness on families.	Evening ward visit / home visit
Day 5 - Community Surgery / Orthopaedics		
1	Common surgical conditions in the rural community. Management of common surgical conditions at a Thana Health Complex.	Classroom Ward visit Visit Emergency room and Operation Theatre
2	Common surgical conditions, continued. Communication with patients on home care and prevention. Treatment of wound infections. Prevention of tetanus.	Attend outdoor clinics with teaching by MOs
3	Primary management of a fracture case	Emergency Ward / Classroom
Day 6 - Community Paediatrics		
1	Common paediatric conditions in community rural	Classroom Visit ward Attend outdoor clinics
2	Screening for the child at risk	Attend in rotation <ul style="list-style-type: none"> • Child health clinic • Outdoor clinic

RESIDENTIAL FIELD SITE TRAINING COURSE
PRIMARY CARE WEEK

Place – Thana Health Complex.

Day 1 : Community Obstetrics

Session 1: Topics – Maternal mortality and morbidity. Combating it by antenatal screening, providing ‘Emergency Obstetric Care’, and by promoting socio-cultural change.

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <ul style="list-style-type: none"> Name the major causes of maternal mortality and morbidity, and in broad terms explain how death may be prevented by health promotion, screening and antenatal care, and provision of emergency obstetric care. Describe the cultural and religious background of the public which influences their use of the maternity services. 	<p>Gained by attendance at two lectures before the field site training.</p> <ul style="list-style-type: none"> Causes of maternal mortality and morbidity. The socio-cultural context of maternal mortality. Antenatal care and screening for high risk pregnancies. The strategy of providing emergency obstetric care at different levels of the obstetric service. 	<p><u>Group discussion</u></p> <p><u>Practical</u></p> <ul style="list-style-type: none"> Visit the obstetric unit of the Thana Health Complex. Examine the records of births and transfers. Using these figures and some national figures do a practical exercise calculating the number of women who deliver and die at home without seeking help. Examine the records of emergency procedures performed at THC and the details of those cases transferred and calculate how many emergencies are remaining untreated. Visit home of a dai. The dai should explain about her work and the training she has had. The students should question her about her beliefs and skills. 	<ul style="list-style-type: none"> OHP Blackboard Record books of births, obstetric procedures and transfers. List of homes of local dais. 	

Session 2: Topics – Antenatal care – screening for risk factors
 Gynaecological complaints seen at primary care level
 Women’s views on the maternity services.

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <ul style="list-style-type: none"> Describe what measures a doctor can take at a Thana Health Complex to reduce maternal mortality and morbidity. Explain why women choose to deliver at home rather than in hospitals, and what are the constraints preventing them seeking obstetric help in emergencies. 	<p>As in Session 1</p> <p>Gained by attendance at two lectures before the field site training.</p> <ul style="list-style-type: none"> Causes of maternal mortality and morbidity. The socio-cultural context of maternal mortality. Antenatal care and screening for high risk pregnancies. The strategy of providing emergency obstetric care at different levels of the obstetric service. Extra ward allocations on obstetric and gynaecological history taking for 1 hour each day for 3 days. 	<p><u>Classroom</u> – nil</p> <p><u>Practical</u></p> <p>Split into three groups of four and rotate every 40 minutes.</p> <p>1 – Attend the antenatal clinic conducted by the Family Welfare Visitor – Focus on screening for high risk pregnancy.</p> <p>2 – Attend female outdoor clinic with the medical officer responsible for teaching. The focus should be on obstetric & gynaecological history taking and the contraceptive practices of the patients.</p> <p>3 – Ward visit with the MO MCH or Resident Medical Officer. Visit to any relevant cases. Individual discussions with some patients or relatives about their views on home or hospital delivery. Questions should be asked about factors which cause women to deliver at home rather than come to hospital such as finance, husbands authority, religious belief, spiritual beliefs, distance.</p>	<p>Questionnaire</p> <p>Checklist</p>	

Session 3: Topic – The maternity services in the Thana and its under-utilisation

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <ul style="list-style-type: none"> Describe the maternity services in the Thana and the responsibilities of different personnel. Explain why the under-utilisation of the maternity services is a matter which doctors have to combat by understanding its causes and by making the services more acceptable. Name the cadres of health personnel involved in maternity care and describe their functions, and their supervisory roles. 	<p>As in session 1</p> <p>Gained by attendance at two lectures before the field site training.</p> <ul style="list-style-type: none"> Causes of maternal mortality and morbidity. The socio-cultural context of maternal mortality. Antenatal care and screening for high risk pregnancies. The strategy of providing emergency obstetric care at different levels of the obstetric service. 	<p><u>Classroom</u></p> <ul style="list-style-type: none"> Talk by MO MCH on her/his work and that of the FWV and FWA in relation to obstetrics Small group work, buzz groups and then reporting on the subject, “What can doctors, nurse midwives or family welfare visitors do to ensure that more women come for hospital delivery or seek appropriate help in emergencies?” 	<ul style="list-style-type: none"> OHP Manual of THC 	

Session 4:

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <ul style="list-style-type: none"> Explain why doctors and the entire health service must work to achieve better utilisation of the maternity services. 	<p>As in session 1 and what has been learned during the day.</p> <p>Gained by attendance at two lectures before the field site training.</p> <ul style="list-style-type: none"> Causes of maternal mortality and morbidity. The socio-cultural context of maternal mortality. Antenatal care and screening for high risk pregnancies. The strategy of providing emergency obstetric care at different levels of the obstetric service. 	<p><u>Group discussion</u> <u>Practical</u></p> <ul style="list-style-type: none"> Debate or Video Debate motion will be that, “It is the responsibility of doctors and other health workers to increase the utilisation of the maternity services to try and reduce the high maternal and perinatal mortality”. <p>The motion will be proposed by two speakers and opposed by two speakers.</p>		

Students will be divided into two groups and they will alternate visits with Community Ophthalmology

Day 2 : Community Otolaryngology

Session 1: Topic – Common infections of the ear, nose and throat which are treatable at the THC

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <ul style="list-style-type: none"> Examine the throats and nose, tonsils, etc. and recognize common infections like chronic tonsillitis, CSOM, etc. 	<p>By prior lecture at the Medical College</p> <p>Three hours teaching on -</p> <ul style="list-style-type: none"> CSOM Ext. & acute otitis media Tonsillitis acute and chronic Nasal problems including sinusitis 	<p><u>Classroom</u></p> <ul style="list-style-type: none"> Initial demonstration of examination technique and practise in pairs to recognise normal findings. <p><u>Practical</u></p> <p>“Teaching in the outdoor clinic using patients to demonstrate signs of disease and to teach examination techniques.</p>	<ul style="list-style-type: none"> Auriscopes Headlight Tongue depressors Nasal specula Aural specula 	

Session 2: The same as session 1 with practical teaching in the outdoor clinic

Session 3: Topic – Reasons why patients are late in presenting with ENT conditions. Health education concerning ENT infections.

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <ul style="list-style-type: none"> Describe the social conditions which result in late presentation of ENT infections. Explain why a doctor’s work includes health promotion by health education with respect to ENT disease. 		<p><u>Classroom</u></p> <p>Brain storming on the reasons for late attendance. Discussion lead by teacher on symptoms and signs which patients should recognise. Buzz groups on how FWAs and doctors should provide health education.</p>	<ul style="list-style-type: none"> OHP 	

Two groups of students will alternate visits

Day 2: Community Ophthalmology

Session 1: Topic- easily detected visual defects in children

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should :</p> <ul style="list-style-type: none"> Be capable to performing and interpreting simple tests for visual acuity. 	<p>Common conditions which cause visual defects.</p> <p>The tests for visual acuity</p>	<p><u>Practical</u></p> <p>Demonstration of tests of visual acuity and performance of these by students in local primary school.</p>	<p>Vision Testing Charts for near & distance (Bengali, English & illiterate)</p> <p>Ophthalmoscope</p> <ul style="list-style-type: none"> 1 Loope 1 torch light 1 tape measures 	

Session 2: Topic - Common eye conditions in Bangladesh which can be diagnosed at primary eye care centres.
- The role of medical assistants in the management of eye disease.

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <ul style="list-style-type: none"> Describe the role and the capabilities of medical assistants in eye disease. Examine a patient's eye and diagnose. <ul style="list-style-type: none"> acute conjunctivitis, disorders due to Vitamin A deficiency cataract 		<p><u>Practical</u></p> <p>Visit a primary Eye Care Centre / outdoor clinic.</p>		

Session 3: Topic – The traditional ways of treating eye disease by unqualified doctors.

Collaboration with unqualified doctors

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <ul style="list-style-type: none"> Aware about the traditional way of treating eye disease by unqualified doctors. 	<p>Knowledge of common eye diseases</p> <ol style="list-style-type: none"> 1) Red eye, watering and painful eye 2) Ocular injury 	<p>Interview with patients</p>		

Day 3: Family Planning and Immunization

Session 1 & 2: Topic- women's and men's attitude to family planning.
Provision of family planning at primary care level.

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <p>Describe why doctors have a responsibility for working as a member of a team in the provision of family planning</p> <ul style="list-style-type: none"> Name and describe what contraceptive services can be provided at Union level. Be able to appraise the sterile technique used in IUCD insertion at primary care level. Name some views and beliefs about family planning held by the public. Describe how health workers should take account of these. 	<p>Knowledge of contraceptive methods gained in prior lecture at Medical College.</p> <p>All lectures on contraception should be given early in the 4th year.</p>	<p>Practical</p> <p>Two groups of six will be formed. One group will visit a satellite family planning clinic in session 1, and the other in session 2. In the other session the groups will visit an EPI Centre with the paediatric teacher.</p> <p>Visit to satellite family planning clinic. Two hour session.</p> <p>The session will include:</p> <ul style="list-style-type: none"> Observation of counselling of patients and the prescription of contraceptives, A talk by the FWV on clients attitudes to, and fears and beliefs about contraceptive methods, Observation of the autoclaving process and the sterile precautions taken in the clinic, Discussion lead by the teacher on the doctor's supervisory role in such a centre. 	<ul style="list-style-type: none"> OHP 	

Day 3: (Cont'd)

Session 1 & 2: Topic – Childhood immunisation

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <p>Describe the cold chain technique and explain its importance.</p> <p>Name the target population for childhood immunisation.</p> <p>Supervise the sterile procedures used in an EPI clinic.</p> <p>Give appropriate information to mothers about the vaccination of their child.</p>	<p>The Cold Chain</p> <p>The extended programme of immunisation.</p>	<p><u>Classroom</u></p> <p><u>Practical</u></p> <p>The students will attend the EPI Centre in the THC.</p> <p>So far as possible they will witness the cold chain in action.</p> <p>Overview of the way the clinic functions will be given.</p> <p>Students will rotate through the various components of the clinic, participating where possible in the work.</p>		

Day 3: Combined class

Session 3: Topic – Promoting family planning and immunization

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <ul style="list-style-type: none"> Describe why doctors have a responsibility to promote family planning whether or not they are working in that area. Explain why a well spaced family results in better health for the children, and give other arguments for promoting family planning. Describe the role of the FPO and the organisation of the contraceptive services in the Thana. Describe the role of EPI Technician in organising EPI clinics. 	<p>Knowledge of contraceptive methods gained in prior lecture at Medical College.</p>	<p><u>Classroom</u></p> <p>Small group session lead by the Family Planning Officer.</p> <p>Brain storming on the role of Family Welfare Assistants in the promotion of family planning.</p> <p>Talk by FPO on the family planning services in the Thana and reasons for promoting family planning.</p> <p>BUZZ groups on how they believe family planning should be promoted by the staff working in the Thana Health Complex.</p>	<ul style="list-style-type: none"> OHP Family planning promotional material Slide projector 	<p><u>Formative</u></p>

Day 4: Medicine (communicable & non-communicable diseases) and Microbiology

Session 1: Topic – Common communicable diseases with complications

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <p>Name the common medical conditions prevailing in the community and the complication which can follow them. Explain why prevention of these diseases is one of a doctor's responsibilities.</p> <p>Explain to a patient in appropriate language how to prevent scabies, hepatitis, tuberculosis, helminthiasis, diarrhoea, and malaria, and recognise ARI and endemic diseases.</p>	<p>By prior lecture at the medical college or by prior reading,</p> <p>General background knowledge about the selected diseases, complications and management there of with emphasis on prevention</p> <p>Interview technique particularly when giving advice on prevention or long term management.</p> <ol style="list-style-type: none"> 1) speed of infectious diseases 2) prevention of infectious disease by health education. 	<p><u>Classroom</u></p> <p>Demonstration on disease pattern in general medicine as seen at the THC and in the community.</p> <p>Demonstration of an interview with a patient with a communicable disease.</p> <p>RMO to select the patient.</p> <p>MO from THC to take part in this session.</p> <p><u>Practical</u></p> <p>Ward visit to patients with those conditions listed. Demonstration and practice in interview technique and the giving of information and advice about communicable and preventable disease.</p> <p>Outpatient department – students split into groups to practice under observation of medical officers.</p> <p>During this session the taking of appropriate specimens for laboratory tests will be included under the supervision of the microbiology teacher.</p>	<ul style="list-style-type: none"> • OHP, slide projector, posters, patient. • OPD diagnostic instruments, including magnifying glass, specimen containers. 	

Session 2: Topic – Common non-communicable diseases with sequelae

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should be able to:</p> <p>Explain what can be done at Thana or Union level to prevent the long term complications of some common diseases: diabetes, rheumatic fever and rheumatoid arthritis.</p>	<p>As in session 1</p> <p>By prior lecture at the medical college or by prior reading,</p> <p>General background knowledge about the selected diseases, complications and management thereof with emphasis on prevention. Interview technique particularly when giving advice on prevention or long term management.</p>	<p><u>Group discussion</u></p> <p><u>Practical</u></p> <p>Ward visit to patients with those conditions listed. Demonstration and practice in interview technique and giving of information and advice about the long term management and the prevention of complications.</p> <p>Outpatient department – students split into groups to practice under observation of medical officers.</p> <p>During this session the taking of appropriate specimens for laboratory tests will be included under the supervision of the microbiology teacher.</p>	<ul style="list-style-type: none"> OPD diagnostic instruments, specimen containers. 	

Session 3: Topic – Laboratory tests for infectious disease

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should:</p> <p>Make and interpret an AAFB smear for tuberculosis.</p> <p>Perform and interpret chemical and microscopic examination of the urine. Collect and make thick and thin blood films for malarial parasites. Perform a microscopic examination on a malaria film and interpret the findings.</p> <p>Be capable of performing macro and microscopic examination of the stool.</p> <p>Be capable of collecting material for diagnosis of fungal infection, and of making slides and doing microscopy.</p>	<p>Microbiology: Background knowledge of the relevant diseases where microbiological tests at the Thana Health Complex will help in diagnosis or monitoring. This will include the prevalence and microbiology of tuberculosis, helminthiasis, diarrhoea, malaria and scabies.</p> <p>Theoretical knowledge of how to do the laboratory tests listed in the objectives which will be learned practically at the field site.</p>	<p>Microbiology</p> <p><u>Practical</u></p> <p>In the laboratory. Group session demonstrating the appropriate laboratory techniques and discussing the interpretation.</p> <p>Students divided into groups for practical experience.</p> <p>Practical laboratory work</p> <p>Make a sputum smear, stain for AAFB, and perform microscopy. Perform chemical and microscopic examination on a urine sample. Make thin and thick blood films and stain for malaria parasites. Perform microscope examination.</p>	<ul style="list-style-type: none"> Laboratory equipment and supplies. Handout detailing methods of doing laboratory tests. 	<p><u>Formative</u></p> <p>On performance in practical laboratory procedure.</p> <p><u>Formative</u></p> <p>MCQ & Short answer questions</p>

Session 4: Topic – The effect of illness on families

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students will be able to:</p> <ul style="list-style-type: none"> Explain why family, social and economic factors must be taken into account when managing a patient's illness. 		<p>Discussion and debriefing on the sessions during the day.</p> <p>Briefing on appropriate behaviour during the community visit.</p> <p><u>Practical</u></p> <p>Evening ward round or community visit. Where possible a visit will be paid to a home in the vicinity of the THC and discussion will take place about the family's experience of illness.</p>		

Day 5: Community Surgery / Orthopaedics

Session 1: Topic – Common surgical conditions occurring in the rural community and seen at the THC.
The management of common surgical conditions at the THC.

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students will be able to:</p> <p>Name the common surgical conditions which occur in a rural community.</p> <p>Explain why it is essential to provide a curative service for these conditions as close as possible to the patient's home. Describe the surgical skills the THC doctor had have to work effectively at THC level.</p>	<p>No special prerequisite knowledge.</p>	<p>Ward visit to see surgical cases.</p> <p>Small group session on the common surgical conditions seen at the THC . Brainstorming on conditions seen daily at the THC. Discussion lead by THC medical officer and facilitated by teacher.</p> <p><u>Practical</u></p> <p>Visit to the emergency room and the theatre and observation of facilities. Observation of any procedure being carried out.</p> <p><u>Classroom</u></p> <p>Buzz groups on what surgical conditions can be dealt with at the THC and which require referral.</p> <p>Reporting back and discussion.</p> <p>Briefing about the purpose of session 2.</p>	<ul style="list-style-type: none"> • OHP 	

Session 2: Topic – Common surgical conditions occurring in the rural community and seen at the THC, with emphasis on home care and prevention of complication

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students will be able to:</p> <p>Explain why health education of the individual patient and the community is necessary to prevent unnecessary complications of minor trauma and surgical conditions.</p> <p>Give a patient advice on the first aid management of minor injuries.</p> <p>Give a patient advice on the first aid management of minor injuries.</p> <p>Give a patient advice about the continued home management of an injury.</p> <p>Describe when a soft tissue injury requires the prescription of antibiotics and when it does not.</p> <p>Explain the indications for tetanus toxoid and anti-tetanus serum.</p>	<p>By prior lecture at medical college.</p> <p>Inflammation and healing.</p> <p>Infection of injuries.</p> <p>The prevention of tetanus.</p>	<p>Group discussion</p> <p>Practical</p> <p>Students split into groups and attend the outpatient clinics run by the medical officers.</p> <p>Particular attention to be paid to injuries and soft tissue infection.</p> <p>MO to give demonstration of advice about first aid of injuries as appropriate for the economic status of the individual.</p> <p>MO to give demonstration of advice to a patient after prescription of treatment for an injury or infection.</p> <p>MO to teach about the prescription of antibiotics and of tetanus toxoid or ATS in the context of particular patients.</p> <p>Teacher will rotate and facilitate.</p> <p>Students should be given the opportunity of giving appropriate advice, under control of MO or teacher, when they feel ready to do so.</p>		<p>On performance in giving advice to patient.</p> <p>Immediate feedback to be given.</p>

Orthopaedics

Session 3: Topic – Primary management of fracture case

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
Students will be able to: Manage the case of primary fracture		Observe and practice	Relevant logistics	

Day 6: Community Paediatrics

Session 1: Topic- Community paediatrics – common and important diseases.

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students will:</p> <p>Be able to name the common paediatric conditions which occur in a rural community.</p> <p>On the basis of a history and examination be able to diagnose in broad categories the following conditions-</p> <p>Protein energy malnutrition, acute respiratory infection, diarrhoeal disease, helminthiasis, common skin diseases, the common infectious diseases, convulsions, low birth weight, and birth asphyxia.</p>	<p>By prior lecture at the Medical College.</p> <p>Nutritional problems, acute respiratory infections, diarrhoeal diseases, helminthiasis, infectious diseases including immunisations, convulsions, low birth weight.</p>	<p><u>Classroom</u></p> <p>Revision of knowledge. Way of behaviour with children</p> <p><u>Practical</u></p> <p>Indoor case demonstrations of common diseases listed in the objectives.</p> <p>Outdoor case demonstrations of the same diseases.</p>		

Session 2: Topic – Community paediatrics – screening for the child at risk.

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>The students should:</p> <p>Know the value of screening using the growth chart.</p> <p>Be capable of weighing a child accurately.</p> <p>Be capable of plotting the weight on growth chart.</p> <p>Be capable to interpreting the growth chart.</p> <p>Know why Vitamin A prophylaxis is used and how it is distributed in the Thana.</p> <p>Know what laboratory tests are useful in the common paediatric diseases and be capable of obtaining specimens.</p> <p>Be capable of performing a Haemoglobin test and interpreting it in the case of a child.</p>	<p>As in session 1</p> <p>By prior lecture at the Medical College,</p> <p>Nutritional problems, acute respiratory infections, diarrhoeal diseases, helminthiasis, infectious diseases including immunisations, convulsions, low birth weight.</p>	<p><u>Classroom</u></p> <p><u>Practical</u></p> <p>Students will rotate between the</p> <p>MCH Clinic</p> <p>Laboratory</p> <p>Outdoor clinic</p> <p>In the MCH clinic they will be shown how to weigh the child and how to plot the weight and will thereafter carry out these tasks.</p> <p>In the laboratory they will be shown how to take blood by heel prick and carry out haemoglobin tests.</p> <p>In the outdoor clinic they will identify children who would benefit by attending the MCH clinic by virtue of being incompletely immunised or appearing underweight.</p>	<ul style="list-style-type: none"> • Weighing apparatus suitable for children • Growth charts • Appropriate laboratory apparatus. 	

Session 3: Brain Storming

Objectives	Prerequisite knowledge	Methods	Aids	Assessment
<p>Explain why in Bangladesh it is important to give priority to common and preventable childhood diseases.</p>		<p>Classroom</p> <p>Debate or discussion about one or more of the issues raised in the morning session concerning immunisation</p>	<ul style="list-style-type: none"> • OHP • Blackboard 	<p>On the subject of all the days sessions – by MCQ. This will be self marked and immediate feedback given.</p>

Glossary

AFB	=	Acid Fast Bacilli
AHI	=	Assistant Health Inspector
ARI	=	Acute Respiratory Infections
EPI	=	Expanded Programme on Immunization
HI	=	Health Inspector
IPD	=	In-Patient Department
M.P.	=	Malarial Parasite
MCH	=	Maternal & Child Health
MCQ	=	Multiple Choice Questions
MO, MCH	=	Medical Officer, Maternal and Child Health
OHP	=	Over Head Projector
OPD	=	Out-Patient Department
ORS	=	Oral Dehydration Salt
SI	=	Sanitary Inspector
TH&FPO	=	Thana Health and Family Planning Officer
TFPO	=	Thana Family Planning Officer
RFST	=	Residential Field Site Training

Annex – 2

Objectives of Day Visits

Objectives of Day Visits

	<u>Page</u>
<ul style="list-style-type: none"> • T.B. / Leprosy / V.D. Clinic • Visit to an Industry • N.G.O. • Food Product Industry • Water Purification Plant • MCH Centre • School Health Clinic • Urban Health Centre • Urban Slum • BIRDEM • Public Health Institute • I C D D R, B 	

T.B. / Leprosy / V.D. Clinic

At the end of the day visit to the clinic students will be able to:

- draw the organogram of the clinic visited
- list the programme(s) carried out by the institution
- list the local programme(s) carried out by the institution
- identify the magnitude of problem in Bangladesh and its public health importance
- list the reporting and information systems from the institution up to the national head quarter
- describe its referral system
- list the method of case finding and case holding
- list the type of attending patients in terms of age/ sex/ occupation/ clinical stages.

Visit to an Industry

At the end of the day visit to the industry students should have acquired knowledge on the following and be able to:

- describe common health problem of the employees working in that industry
- describe specific occupational health hazards of the working employees
- list specific measure to reduce occupational health hazards
- explain industrial acts related to the welfare of the employee
 - Medical • Engineering • Environmental
- describe the effect of industry in the environment and community (if any)
- learn about any awareness programme against health hazards
- know any screening programme is being practised
- safety measures are taken during any emergency problems of the industry like fire etc.

N.G.O.

At the end of the day visit to an NGO (Health and Population) students should have acquired knowledge on the following and will be able to:

- describe the aims and objectives of the NGO visited
- describe how the NGO has planned and organized its work
- describe how it make its work strategy
- describe its programme
- explain how it evaluates its programme
- explain how it mobilizes the community
- explain how its arranges and manages its logistic support
- explain how it collaborates with GOB programme.

Visit to Food Product Industry

At the end of the day visit the students will be able to:

- learn how the milk is pasteurized
- learn how the hygienic condition is maintained
- learn how the law (Food Act) is being practised
- list the common health problems which may occur in this industry due to different food/ milk production
- describe its safety measures taken, if any.

Water Purification Plant

At the end of the day visit the students should be able to:

- describe the bacteriological standard of drinking water
- describe the different methods of purification of water on a large scale
- list the steps of water purification plant
 - rapid sand filtration
 - low sand filtration
- list the steps of water purification plant on a small scale
- list the chemicals commonly used in the water purification plant on a large scale
- list the name of the water borne diseases.

MCH Centre

At the end of the day visit the students will be able to:

- draw the organogram of MCH centre
- describe the activities of
 - Antenatal, natal and postnatal
 - EPI
 - Diarrhoeal diseases & ORT
 - Nutritional education
- describe the magnitude of problem of the pregnant mothers and children
- describe the intervention plan to decrease the magnitude of problem (mortality and morbidity)
- list the reporting, information and referral system.

School Health Clinic

At the end of day visit to a school health clinic the students should have acquired knowledge on the following and will be able to:

- describe organogram of the school health clinic
- list common health problems of school children
- list health education programme being practised there
- describe the reporting and information system
- list the drugs available in the school health clinic

Urban Health Centre (Dispensary)

At the end of visit to an Urban Health Centre students should be able to:

- describe the Organogram of the Urban Health Centre and its functioning
- describe the job of the staffs of the Urban Health Centre
- list the common diseases encountered
- list the drugs used in the Urban Health Centre
- describe the details of Family Planning and Immunization activities carried out in Urban Health Centre
- describe the records maintained of the referral system.

Urban Slum

At the end of the visit to an Urban Slum the students will be able to:

- list the common health problems of the slum visited
- describe the health delivery system of the slum
- describe the existing programmes in the slum in term of
 - control of communicable/non-communicable diseases
 - immunization programme
 - MCH & Family Planning Programme
- describe the environmental conditions – specially
 - Water supply
 - Sanitation
 - Housing

BIRDEM (Bangladesh Institute of Diabetic, Endocrine, Metabolic Diseases & Research)

At the end of the visit/session the students will be able to:

- describe the organogram of BIRDEM
- describe the follow up system of BIRDEM
- describe the record keeping system of BIRDEM
- describe the laboratory facilities of BIRDEM
- describe its referral system

Public Health Institute

At the end of the day visit the students should be able to:

- state the activities of IPH
- list the vaccines prepared in the IPH and those are imported
- describe the methods of preparation of A.R.V. & T.T. and their storage arrangement
- enlist the names of I.V. fluid produced in the IPH and the different stages of their preparation and their methods of quality control
- express the activities of Microbiology Department
 - water bacteriology
 - examination of food sample
 - chemical examination of vaccines in medicolegal cases.

I C D D R, B

At the end of the visit to the ICDDR,B the students will be able to:

- write the organogram of ICDDR,B
- list the various types of diarrhoeal diseases from the records
- describe the magnitude of problem
- describe the management of diarrhoeal disease: moderate & severe
- list at least 3-5 research activities conducted by ICDDR,B
- list the reporting and information system

Annex – 3

- 1. An Example of Clinico-Social Case Study**
- 2. Epidemiological Exercises: Filariasis; Malaria**
- 3. Communication Skills: Checklist; Rating Scale**
- 4. Group Interaction Observation Guide**
- 5. Impressions of Village People**

CLINICO-SOCIAL CASE STUDY

Two and half year old female child Sonya coming from Munshiganj was admitted in DMCH on 7th July, 1999 with the following complaints.

- | | | |
|------|--------------------------|---------|
| i) | Cough with expectoration | 10 days |
| ii) | Fever | 2 days |
| iii) | Diarrhoea with vomiting | 2 days |

History of present illness:

Child was apparently asymptomatic 10 days back but developed cough with expectoration suddenly. Child had diarrhoea two days back which was of mucoid in nature. Child passed stools 4 to 8 times per day. Patient also started having fever for two days.

Past history:

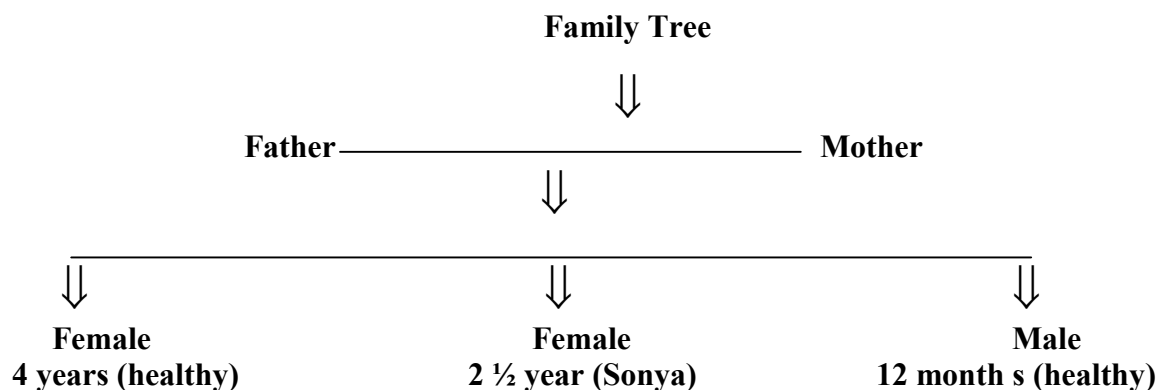
Repeated diarrhoea, respiratory infection till the age of 1^{1/2} years for which she was treated at local hospital. No history of contact with tuberculosis. History of measles at the age of 10 months. Diarrhoea mostly treated at home with home remedies. Feeding stopped during diarrhoea.

Treatment history:

The child was taken to a local practitioner for the cough with expectoration, since there was no improvement, the child was brought to DMCH.

Health facilities available:

PHC is situated at Deobog which is about 2 Kms away from her residence. Local practitioner (Homeopathy) is also available.



Socio-economic history:

The family belongs to Muslim religion, Sunni caste. Father illiterate and mother is 3rd std. Father is an agricultural labourer earning Tk 300/- per month and mother is a house wife. Father smokes/drinks occasionally.

Environmental history:

The family lives in a house with a built in area of 375 sq. feet of which living area is 225 sq. feet and rest is kitchen. Floor and walls are made of mud and roof is thatched (Kutchha house). House does not have electricity supply. Water supply is from tap which is 20 mts. Away from the house. Waste water from the house drained into open street drain which runs along the street. Solid waste is thrown behind the house. There is no latrine in the house. All family members practice open air defecation.

Antenatal history:

She had taken two doses of tetanus toxoid injection at Deobog. No other check up.

Natal history:

Child was born full term, Spontaneous Vaginal Delivery at Munshiganj hospital. Child was of average size at birth.

Developmental history:

Child had social smile at two months of age, started crawling from 7th month, starting sitting without support from 8th month onwards. He cannot walk without support even now. At the moment child can speak only few words amma, appa.

Immunisation history:

Child was immunised with a single dose of BCG vaccine at the age of three months. She was given three doses DPT and three doses of OPV with one month interval at home by health worker from third month onwards. The child has not received booster doses of OPV & DPT.

Dietary history:

Child was breastfed from first day of delivery. It was given sugar water on the first two days. Supplementation started from 11th month with diluted cow's milk. Later, at first year biscuits, rice and fruits were added.

<u>Child's Intake</u>		<u>Normal requirements</u>
Energy	935 calories	1200 calories
Protein	14 gms	19 gms

Examination:

General examination: Child is moderately built but poorly nourished, tachypneic, emaciated, irritable. Pallor present. No icterus, cyanosis, clubbing, pedal oedema, generalised lymphadenopathy. Depigmentation of hair is present. Conjunctival xerosis is present

Vital signs:	Pulse rate	-	120/min
	RR	-	40/ min
	BP	-	90/70 mmHg

Anthropometric measurements:

	Actual	Expected
Weight	9.0 Kg	12.9 Kg
Height	80.0 cm	91.3 cm
Mid arm circa	10.5 cm	13.0 cm
Head circa	44.5 cm	47.7 cm
Chest circa	47.0 cm	50.1 cm

Systemic Examination:

Cardio vascular system – normal
Respiratory system – bilateral crepitations present

Per abdominal examination:

Abdomen distended, liver is palpable (1 cm) below the right costal margin. Spleen not palpable.

Provisional Diagnosis: Grade II Protein Energy Malnutrition with Broncho pneumonia.

Discussion points for clinico-social study on natural history of the disease

- Q1. Till what age do you think the child was apparently normal and what factors (favourable) were responsible for it?
- Q2. What factors in the family might have played a role in the development of this condition in the child?
- Q3. Classify the factors you have identified into host, agent, socio-economic and environmental factors.
- Q4. Is there one factor responsible for development of this condition or more than one?
- Q5. Was it possible to prevent this child from developing this condition?

If so, where was the failure?

EPIDEMIOLOGICAL EXERCISE ON FILARIASIS

PART A

A filaria survey was carried out in an area having a population of 30,000 in the year 1999. Approximately, 20 cmm. Of blood was collected by finger prick from 4,200 people between 8 PM and 12 PM. Smears were prepared. The smears were examined for micro-filariae. It was found that 420 persons were carrying micro-filaria.

- Q1. What type of smears should be prepared?
- Q2. What is the appropriate stain used for detecting Mf?
- Q3. Which species of Mf would you expect?
- Q4. What further information do you need to answer this?

On physical examination 357 persons showed possible chronic manifestation of filarial disease.

- Q5. What type of survey would you call this? Comment on the sample size
- Q6. Enumerate and calculate the possible filarial indices for the area.

PART B

1400 Mosquitoes were examined for the presence of larvae.

- Q1. What are the common vector species in Bangladesh?
- Q2. How will you detect the larvae in the mosquito?
- Q3. Which part of the mosquitoes would you examine for the presence of larvae?

In all 14 mosquitoes were positive for the developing larvae and 7 of these were found to contain infective stage larvae.

- Q4. Which stage of larvae is infective?
- Q5. What is extrinsic incubation period?

PART C

After collection of base line data HCH spraying was undertaken along with antilarval measures in the area as a control measure. All the dwellings and cattle shed were sprayed four times a year. Filaria survey were conducted every year. In 1993 i.e. after 3 years, the following were the findings of the re-survey.

a)	Number of persons examined	1600
b)	Number of persons positive for Mf	40
c)	Number of persons with chronic manifestation of filarial diseases	32
d)	Number of mosquitoes dissected	2000
e)	Number of mosquitoes positive for developing larvae	2
f)	Number of mosquitoes containing 3 rd stage larvae	1

- Q1. Comment on the changes in the filarial indices from 1999 to 2003.
- Q2. What other control method could have been adopted?

EPIDEMIOLOGICAL EXERCISE ON MALARIA

In the year 1999, Basic Health Workers of a Community Health Centre (CHC) covering a population of 1,00,000 collected 5800 blood smears during their home visits and administered 4 tablets to those who gave a history of fever. 1800 blood slides were collected from fever cases attending the outpatient services of the PHC.

1. What are the types of malaria surveillance?
2. What percentage of blood slides were collected in each type of surveillance?
3. What type of smear should be collected? What is the method of staining?
4. Calculate the Annual Blood Examination Rate (ABER).
5. Was the ABER in conformity with the recommended target?
6. What tablets was the BHW expected to administer?
7. What is the dose and what would you call this treatment?

On staining and examination of the blood slides, 250 were found to be positive for *Plasmodium vivax*, and 115 were positive for *P. falciparum*.

8. What is API? Calculate it.
- 8a. What other rates can be calculated?
9. What does this API rate signify?
10. Taking into consideration the API, suggest steps to be taken under the Modified Plan of Operations.

In 2000, the HW's collected 9100 blood slides from the same PHC area during their visits, and 3200 slides were collected from fever cases attending the PHC out patient services.

11. Calculate the ABER and comment.

When the smears were examined, 115 slides were found to be positive for *P. vivax*, and 75 were positive for *P. falciparum*.

12. What treatment would you give these cases?
- 12a. What steps would you take under the modified plan of operations?

Of the 75 persons positive for *P. falciparum*, 41 continued to have fever in spite of treatment given.

13. What could be the reason for this?
14. How will you treat these cases?
15. What prophylactic measures will you recommend to someone who is to live in the area?

TYPE – 1

Observation of Communication Skill

Was the interviewer:

Manner

1. Friendly _____ bossy
2. Rude _____ polite
3. Sympathetic _____ unsympathetic

Language

4. Using simple language
5. Avoiding technical terms
6. Which words did he use which respondent might not understand
e.g. _____

Techniques

	Yes	No
7. Was the explanation logical?		
8. Did he respond to question?		
9. Was he persuasive?		
10. Did he use any Visual Aid?		
12. Was it appropriately used?		

TYPE – II

Check list for Observation of a Communication or a Role Play

1. Is the client greeted?
2. Is the client spoken by name?
3. Is the client's existing knowledge explored?
4. Are the client's beliefs respected?
5. Is the explanation logical and structured?
6. Are the facts accurate?
7. Is enough detail given?
8. Are simple and familiar terms used?
9. Is credit given for appropriate action?
10. Is blame and condemnation avoided?
11. Is concern shown to client's problems?
12. Is the client encouraged to voice his or her concern?
13. Are appropriate visual methods used?
14. Is the communication brief?
15. Is the communication unhurried?
16. Any solution offered?
17. Is the persons asked to come back?

TYPE – III
An Interview rating scale
e.g. establishing a relationship

Instructions

Tick (✓) in the appropriate box the performance of the interviewer

Read the key below before ticking.

The interviewer	1	2	3	4
1. Appears friendly & welcoming				
2. Greets patient & introduces himself/herself				
3. Uses the clients name				
4. Shows concern for the client				
5. Uses appropriate gestures and body posture				

Key: 1. Done well

2. Done poorly

3. Not done

4. Not applicable

GROUP INTERACTION OBSERVATION GUIDE

1. Gives information
2. Asks for information
3. Gives opinion or suggestion
4. Asks for opinion
5. Gives suggestion, direction to others
6. Asks for clarification
7. Shows antagonism, defends or asserts self
8. Interferes group work by diverting discussion
9. Gives help, acceptance, positive reinforcement (verbal or non-verbal)
10. Shows satisfaction; laughs or jokes appropriately (verbal or non-verbal)
11. Disagrees, shows rejection (verbal or non-verbal)
12. Withdraws from group discussion (verbal or non-verbal)
13. Records the ideas/ suggestions
14. Summarises.

IMPRESSIONS OF VILLAGE PEOPLE

Please give us your general impressions of village people by checking an appropriate space between each pair.

For example

A	B	C	D
Kind		Unkind	

If you think villagers are generally very kind you would tick 'A' if somewhat kind 'B' somewhat unkind 'C' and if you think they are unkind then 'D' please indicate even if you are not certain.

	A	B	C	D
1.	Clean			Dirty
2.	Unhealthy			Healthy
3.	Friendly			Unfriendly
4.	Co-operative			Uncooperative
5.	Lazy			Industrious
6.	Well-informed			Poorly informed
7.	Undependable			Dependable
8.	Wise			Foolish
9.	Suspicious			Trusting
10.	Poorly fed			Well fed
11.	Cheerful			Unhappy
12.	Honesty			Dishonest
13.	Non-religious			Religious
14.	Rational			Superstitious
15.	Pessimistic			Optimistic

You have been asked to make a community diagnosis. Mention the points you will take into consideration.

COMMUNITY MEDICINE

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Assessment</i>	<i>Department</i>
Antenatal investigation Care of New born Feeding Practice	Student should be able to: <ul style="list-style-type: none"> Identify the investigating necessary during antenatal period Explain Care of new born List the advantages of Breast Feeding and disadvantages of artificial feeding 	OHT Slide Problem solving class with seminar, experience	Oral Check-list	Gynaecology Paediatrics
Motivation of eligible and target couple to appropriate contraceptive methods	<ul style="list-style-type: none"> Conduct & counselling session for motivation of target and eligible couples. 	Informal interview with clients attending in Model FP clinic & DBG wound.	Observation Check-list	Model Clinic Gynaecology
Immune mechanism Immunization Schedule EPI Program	<ul style="list-style-type: none"> Explain immune mechanism. Describe recommended immunization Schedule Assess the level of immunization status of children in the country. 	OHT EPI records Vaccines	Oral Check-list	Paediatrics Pathology
Epidemiology of IHD and RHD and their management	<ul style="list-style-type: none"> Describe the epidemiological basis for causation of IHD/RHD Understand the importance of prevention of IHD/ RHD Develop skills for management of IHD/ RHD in the community 	Video Real Patient	Oral	Cardiology Physiology
Epidemiology of STDs and their management	<ul style="list-style-type: none"> Describe the epidemiology of STDs Explain the importance of Prevention of STDs Develop skills for their management 	<i>Video</i>	Oral	Skin & VD Microbiology
Epidemiology of TB & Leprosy	<ul style="list-style-type: none"> Describe the epidemiology of T.B & Leprosy Explain the importance of their prevention Manage the pateints with TB & Leprosy 	Patients Video	Oral	Medicine and Skin & VD and Microbiology and Pharmacology

Community Medicine

1st part (1st & 2nd yrs.) :	Lecture : 30 hours
	Tutorial : 40 hours
	Day visit: 10 days
2nd Part (3rd & 4th yrs.) :	Lecture : 100 hours
	Tutorial : 120 hours
	Day visit: 30 days (Day visit + RFST)
<hr/>	
Total (1st Part + 2nd Part):	Lecture : 130 hours
	Tutorial : 160 hours
	Day visit: 40 days (also include RFST)
<hr/>	

Forensic Medicine

Goal

The goal of teaching Forensic Medicine in the undergraduate medical course is to produce a physician who is well informed and alert about his/her medico-legal responsibilities and is capable of discharging medico-legal duties in medical practice.

Departmental Objectives:

At the end of the course in Forensic Medicine, the undergraduate student will be able to:

- ❑ Examine and prepare reports or certificates in Medico-legal cases/situations in accordance with the law of land.
- ❑ Perform medico-legal postmortem and interpret autopsy findings and results of other relevant investigations to logically conclude about the cause, manner and time since death.
- ❑ Practice & apply medical ethics, etiquette, duties, rights, medical negligence and legal responsibilities of the physicians towards patient, profession, society, state and humanity at large.
- ❑ Identify & apply relevant legal/ court procedures applicable to the medico-legal/ medical practice.
- ❑ Collect preserve and dispatch specimens in medico-legal/ postmortem cases and other concerned materials to the appropriate Government agencies for necessary examination.
- ❑ Diagnose, apply principles of therapy & understand medico-legal implications of common poisons.
- ❑ Apply general principles of analytical, environmental, occupational and preventive aspects of toxicology.

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to:</p> <ul style="list-style-type: none"> Define Forensic Medicine, Medical Jurisprudence & differentiate between them. Describe different courts in Bangladesh and their powers. Describe various court procedure and give deposition in the court. Describe various medico-legal systems Write various medical documentary evidences (certificate, reports & dying declaration) Define and describe different types of death. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> Discipline of Forensic Medicine and its subdivisions & Medical Jurisprudence. Courts in Bangladesh and their jurisdiction: <ul style="list-style-type: none"> Supreme Court, High Court, Sessions Court, Additional Sessions Court, Magistrates Court, Metropolitan Magistracy. Court procedures: <ul style="list-style-type: none"> Summons, conduct money, oath, affirmation, perjury, types of witnesses, types of examination, recording evidence, court questions, conduct of doctor in witness box, medical examiner system. <p><u>Additional:</u></p> <ul style="list-style-type: none"> Coroner, medical examiner & continental Medico-legal systems. <p><u>CORE:</u></p> <ul style="list-style-type: none"> Medical certification and Medico-legal reports including dying declaration & medical documentary evidence. Death: <ul style="list-style-type: none"> Definition, types: somatic, cellular and brain-death. 	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Self study</p>	<p>Audio-visual Overhead Projector</p> <p>OHP & S.P</p>	<p>1 hr.</p> <p>2 hrs.</p> <p>2 hrs.</p> <p>1 hr.</p> <p>1 hr.</p> <p>1 hr.</p>	<p>Written</p> <ul style="list-style-type: none"> Short Essay 80% MCQ 20% <p>Oral Practical with checklist</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Identify and interpret different signs and mode of deaths. Diagnose deaths due to other environmental cause Identify artefacts on the dead body- both ante-mortem & post-mortem <p>Students will be able to identify & differentiate:</p> <ul style="list-style-type: none"> Rigor Mortis, sapanification, Putrefaction, mummification & maceration. Determination of time since death. Identify & describe the eye & skin changes after death. 	<ul style="list-style-type: none"> Natural and unnatural death: <ul style="list-style-type: none"> ❑ Sign of death ❑ Mode of death Presumption of death and survivorship. Suspended animation Death due to occupational and environmental causes e.g. <ul style="list-style-type: none"> ❑ Chronic metallic poisoning (Arsenic, lead, Mercury) ❑ Starvation ❑ Electrical injuries ❑ Snake bite ❑ Epidemic diseases (Gastro-enteritis) ❑ AIDS, Hepatitis ❑ Precaution in handling cases of health risk <p>Changes after death:</p> <ul style="list-style-type: none"> Cooling of body, lividity, Rigor mortis. Changes of Eye & Skin Putrefaction, mummification, adepocere and maceration. Principles of estimation of time of death. Post-mortem artefacts 	<p>Tutorial</p> <p>Practical</p> <p>Lecture</p> <p>Self study</p>	<p>Autopsy</p> <p>Demonstration</p> <p>Video tape</p> <p>Audio-visual</p>	<p>2 hrs.</p> <p>2 hrs.</p> <p>1 hr.</p> <p>1 hr.</p> <p>2 hrs.</p> <p>1 hr.</p> <p>1 hr.</p> <p>1 hr.</p> <p>1 hr.</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Establish identity of living & dead person (Age, sex, race). Determine the cause & nature of death from the trace evidences. Learn about medico-legal importance of blood grouping, typing to establish identification, paternity & maternity. <p>Students will be able to demonstrate knowledge about:</p> <ul style="list-style-type: none"> Inquest done by police, magistrate and coronar. Autopsy Exhumation & its M.L. importances. <p>Aware about safe working & proper utilization of a modern morgue & Laboratory facilities.</p>	<p>CORE: Identification:</p> <ul style="list-style-type: none"> Definition, Identity of living persons & dead bodies Race, age, sex Identification in mass death & examination of human remains <p>Additional:</p> <ul style="list-style-type: none"> Trace Evidence Forensic – Radiology Forensic Dectylography Forensic Odontology <p>Blood groups:</p> <ul style="list-style-type: none"> Medico-legal importance; blood grouping. HLA typing, DNA typing Hazards of Blood Transfusion <p>CORE: INQUEST Report:</p> <p>Medico-legal autopsies:</p> <ul style="list-style-type: none"> Medico-legal post-mortem. Difference between pathological and Medico-legal post-mortem Objectives, procedures, formalities of Medico-legal autopsies. Obscure autopsy, Negative autopsy. Special procedures in suspected poisoning cases. Examination of mutilated bodies and exhumation. <p>Additional:</p> <ul style="list-style-type: none"> Criteria of a modern mortuary. <p>Forensic Science Laboratory & serological laboratory & their importance</p>	<p>Lecture</p> <p>Tutorial</p> <p>Practical</p> <p>Self study</p>	<p>Audio-visual</p> <p>Video-Tape</p> <p>Models,</p> <p>Flims,</p> <p>OHP</p> <p>SP</p> <p>Autopsy set</p> <p>Video Tape</p>	<p>5 hrs.</p> <p>2 hrs.</p> <p>2 hrs.</p> <p>2 hrs.</p> <p>2 hrs.</p> <p>3 hrs.</p> <p>2 hrs.</p> <p>2 hrs.</p> <p>1 hrs.</p> <p>1 hrs.</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to gain knowledge & skill about:</p> <ul style="list-style-type: none"> Different types of wounds, produced by different weapons. The cause of death due to wounds. Identify –ante-mortem & post-mortem wounds. Identify nature of the wounds. Differentiation of deaths due to different regional injuries. Describe the hurts and their medico-legal importance. 	<p><u>CORE:</u></p> <p>Wounds and its types & M.L Aspects:</p> <ul style="list-style-type: none"> Abrasion, bruises, incised, lacerated, penetrating, mixed wound, fabricated wounds. Fire arm & injuries Blast injury & injuries caused by explosives Causes of death due to wounds & its legal aspects. Age of wound (Healing of wound) <p>Evidence from the wound itself:</p> <ul style="list-style-type: none"> Differences between antemortem and post-mortem injuries. Differences between accidental, suicidal and homicidal wound. <p>Regional injuries:</p> <ul style="list-style-type: none"> Head, neck, chest, abdomen, genitalia. Intra cranial haemorrhage. <p>Injuries due to physical agents:</p> <ul style="list-style-type: none"> Medico-legal importance of mechanical, thermal, chemical, electricity, lightning & radiation injuries. <p>Wounds certification:</p> <ul style="list-style-type: none"> Grievous and simple hurt. <p>Vehicular injuries:</p> <ul style="list-style-type: none"> Injuries of primary and secondary impact, crush syndrome. 	<p>Lectures</p> <p>Practical</p> <p>Demonstration</p> <p>Tutorial</p> <p>Video-tape</p> <p>Self study</p>	<p>Models</p> <p>Weapons</p> <p>OHP/SP</p> <p>Models</p> <p>Audio-visual</p> <p>Over head Projector</p>	<p>6 hrs.</p> <p>2 hrs.</p> <p>1 hr.</p> <p>1 hr.</p> <p>4 hrs.</p> <p>3 hrs.</p> <p>1 hr.</p> <p>1 hr.</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Students will be able to identify various forms of battery & their M.L. importance. <p>Students will be able to:</p> <ul style="list-style-type: none"> Diagnose various forms of asphyxial deaths, and their medico-legal aspects. <p>Students will be able to:</p> <ul style="list-style-type: none"> Diagnose Pregnancy, delivery & abortion with their medico-legal importance. 	<ul style="list-style-type: none"> Wife battering & violence against women Servant battering <p><u>Additional:</u></p> <ul style="list-style-type: none"> Cot death, SIDS Death due to neglect. Battered babies. <p><u>CORE:</u></p> <p>Asphyxial deaths:</p> <ul style="list-style-type: none"> drowning, hanging, throttling and strangulation & suffocation Traumatic Asphyxia Pathophysiology of Asphyxia <p><u>Additional:</u></p> <ul style="list-style-type: none"> Sexual Asphyxia <p><u>CORE:</u></p> <ul style="list-style-type: none"> Pregnancy signs & pregnancy period in the living and in the dead. Medicolegal importance of pregnancy Delivery: signs of recent and remote delivery in the living and in the dead. 	<p>Lecture</p> <p>Practical</p> <p>Self study</p>	<p>Audio-visual</p> <p>Video-tape</p> <p>OHP/SP</p>	<p>1 hr.</p> <p>2 hrs.</p> <p>5 hrs.</p> <p>4 hrs.</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to: Define & diagnose Abortion, its types & complications</p> <ul style="list-style-type: none"> Differentiate between criminal and justifiable abortion Describe medico-legal importances of viable age. <ul style="list-style-type: none"> Describe collection, preservation, and dispatch of viscera, blood and body fluid for chemical analysis. Differentiate between true & false virginity, impotency & sterility. Describe – procedure of Examination of victim or accused Identify sign & symptoms of rape & other sexual offences with their medico-legal importances. <ul style="list-style-type: none"> Describe – different sexual deviations, artificial insemination with their medico-legal importance. 	<p><u>CORE:</u></p> <p>Abortion & its legal bearing.</p> <ul style="list-style-type: none"> Spontaneous, Artificial-justifiable and criminal. <p><u>Infanticide:</u></p> <ul style="list-style-type: none"> Diagnosis of live birth from still birth <p><u>Additional:</u></p> <ul style="list-style-type: none"> Feticide and viability Definition and Medico-legal considerations of viability; Determination age of foetus. Foeticide & IUF death. <p><u>CORE:</u></p> <p>Biological fluids and stain: Collection</p> <ul style="list-style-type: none"> Collection, preservation, dispatch of viscera & blood & body fluids for chemical analysis Impotency, sterility, virginity and defloration <p>Sexual offences:</p> <ul style="list-style-type: none"> Natural: Rape, Adultery, Incest. Unnatural: sodomy, Lesbianism, Bucculcoitus, Bestiality <p><u>Additional:</u></p> <ul style="list-style-type: none"> Sexual perversions. Artificial insemination and other artificial methods of conception with medico-legal implications Paternity and maternity. Surrogated mother & baby 	<p>Lecture</p> <p>Practical</p> <p>Practical</p> <p>Self study</p>	<p>Audio-visual</p> <p>Model & specimen</p> <p>Audio-visual</p> <p>Simulator</p>	<p>2 hrs.</p> <p>1 hr. 1 hr.</p> <p>1 hr.</p> <p>1 hr.</p> <p>1 hrs. 1 hrs.</p> <p>2 hrs.</p> <p>5 hrs.</p>	

Learning Objectives	Contents	Teaching / Learning Strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Describe how to diagnose a case of mental disorder. Describe how to fix-up civil, criminal and social responsibilities of an insane person. 	<p style="text-align: center;">Forensic Psychiatry</p> <p>CORE:</p> <ul style="list-style-type: none"> Types of mental disorder, lucid interval, testamentary capacity. Criminal responsibility of an insane person. Diminished responsibility True insanity and feigned insanity: <p>Additional: Civil and social responsibilities.</p>	<p>Lecture</p> <p>Tutorial</p> <p>Self study</p>	<p>Audio-visual</p>	<p>3 hrs.</p>	
<p>Student will be able to:</p> <ul style="list-style-type: none"> Explain the codes of medical ethics & state legislations. Describe the functions and disciplinary control of BMDC. Describe the rights and privileges of a registered medical practitioner. Describe the patients' rights. Describe the professional negligence and its legal responsibilities. Describe consent and its types <ul style="list-style-type: none"> Describe W.C. act, Medical maloccurrence, product liabilities & mercy killing with their M.L. importances. 	<p style="text-align: center;">Medical Jurisprudence</p> <p>CORE:</p> <ul style="list-style-type: none"> Code and law of medical ethics, its history and Geneva declaration, Tokyo declaration, Helsinki declaration. Bangladesh Medical & Dental Council (BMDC), its constituents, functions and disciplinary control Rights and privileges of a registered medical practitioner, & rights of patients. Professional secrecy & privileged communication Medical Malpractice: civil & criminal Duties of a medical practitioner towards his patient and the society, Professional infamous conducts/misconduct. Consent <p>Additional:</p> <ul style="list-style-type: none"> Workmen's compensation act. Medical Maloccurrence & Product Liabilities, vicarious liability Euthanasia or Mercy killing 	<p>Lecture</p>	<p>Audio-Visual</p> <p>Overhead Projector</p>	<p>12 hrs.</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Performing medico-legal cases individually. Performing medico-legal autopsies under supervision Attend the court as an witness and depose there. 	<p>Tutorial & Observations</p> <p>CORE:</p> <ul style="list-style-type: none"> Observation of ten medicolegal autopsies. Injuries in the casualty department and weapons in the Forensic Medicine department. Specimens of poisons. Age estimation from bones. X-rays, dentition. Observation/examination of intoxicated persons in the ward (in door). Examination of victim and accused of sexual offences in the Forensic Medicine department. <p>Practical Skill</p> <p>CORE: Preparation of certificates on following medico-legal situations:</p> <ul style="list-style-type: none"> Injured patient Births and deaths, Physical fitness & sickness. Autopsy report Dying declaration Insanity Age certificate Certificates of sexual assault 	<p>Practical</p> <p>Tutorial</p> <p>Demonstrations</p> <p>Self study</p> <p>Video/Tape slide presentation of examination of victims of sexual assault.</p> <p>Visit to Court.</p>	<p>Autopsy Kit & specimen of different poisons</p> <p>Models</p>	<p>10 hours</p> <p>7 hours</p> <p>6 hours</p> <p>3 hours</p> <p>3 hours</p> <p>4 hours</p> <p>6 hours</p> <p>2 hours</p> <p>5 hours</p> <p>5 hours</p> <p>1 hour</p> <p>10 hours</p> <p>1 hour</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Explain the procedures of examination of a sexual offences Explain the procedures of determination of age Describe the suspected poisoning cases and can describe the emergency management of an intoxicated patient in the ward. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> Examining cases of sexual offences. Determination of age. Management of intoxicated patient in emergency & in the wards. <p>Management of Poisoning:</p> <ul style="list-style-type: none"> Stomach wash. Collection, preservation and dispatch of viscera for chemical analysis and histopathology. Collection of body fluid from living and dead body for analysis. Collection of blood and refer to blood grouping and other tests. Collection of trace evidence, preservation, labelling & transmission CPR. Management of Acute Respiratory Failure Ethical aspect in examination of victims of sexual assault and injury Ethical aspect in dealing with dead bodies eg Postmortem exam. 	<p>Practical</p> <p>Tutorial</p> <p>Demonstration</p> <p>Self study</p>	<p>Autopsy Kits</p> <p>Articals</p> <p>Utensils</p> <p>Test tubes</p> <p>Small jars</p> <p>Preservative & other Preservation kits</p>	<p>5 hours</p> <p>5 hours</p> <p>1 hour</p>	

Teaching / Learning Methods & Teaching Aids for Forensic Medicine

Teaching / Learning Methods	<i>Teaching Aids</i>
<ul style="list-style-type: none"> • Lectures • Tutorials • Practicals • Demonstrations • Video & slide presentation • Community Oriented teaching and learning:- visit to Police Station/ Court/ District Hospital. • Self study 	<ul style="list-style-type: none"> • Camera with film • Overhead Projector (OHP) • Slide Projector (SP) • Post-mortem video tape, TV, Cassette Player (available on different events/topics) • Sexual Assault examination kit • Autopsy set • Specimen / models: <ul style="list-style-type: none"> ❑ Dummy showing the hanging and strangulation. ❑ Medico-legal wounds of different variety and different nature. • Weapons: <ul style="list-style-type: none"> ❑ weapon ❑ Fire arms and ammunities (dead) • Specimen of poisons and related instruments (e.g. Ryles tube, stomach tube etc.)

Summative assessment of Forensic Medicine

Assessment systems and mark distribution

Components	Marks	Total Marks
Formative assessment	10	10
WRITTEN EXAMINATION		
MCQ	20	
SAQ	70	90
<i>Practical Examination</i>		100
ORAL EXAMINATION (Structured)		100
Grand Total		300

- There will be separate Answer Script for MCQ
- Pass marks 60 % in each of theoretical, oral and practical

Example of a “Format” for Integrated Teaching

Teacher of Anaesthesiology	Teacher of Pharmacology	Teacher of Medicine	Teacher of Forensic Medicine
<ul style="list-style-type: none"> Hazards of anaesthesia and causes of death, injury and disability 	<ul style="list-style-type: none"> The Pharmacological aspects of opium and opioids 	<ul style="list-style-type: none"> Clinical aspects of acute opium and opioid poisoning 	<ul style="list-style-type: none"> When and how far anaesthetists are responsible for such death. Legal responsibilities by an anaesthetist. Forensic aspects of acute opium and opioid poisoning. Determination of causes of death due to above poison. Methods for determination and confirmation of the poison.

Program for Integrated teaching

Topics	Learning Objective	Teaching & Learning Methods	Assessment	Department
<ul style="list-style-type: none"> Sudden natural death – Medicine + FM. Clinical toxicology – Ph. + FM. 	Students will be able to: <ul style="list-style-type: none"> Identify sudden natural death cases. Identification and legal aspects of deaths due to poisoning. 	Lectures & Seminars		Medicine & Forensic Medicine
<ul style="list-style-type: none"> Identification and blood group & inheritance Blood Transfusion hazards and death Determination of parenthood Legal responsibility of a blood transfusion officer 	Students will be able to: <ul style="list-style-type: none"> Ascertain legitimacy and paternity of a child. 			Blood Transfusion & Forensic Medicine
<ul style="list-style-type: none"> Legal responsibilities of a Radiologist Determination of 'bone age' Detection of foreign bodies in victims of crime Diagnosis – pregnancy etc. Ultra-sonographic diagnosis of pregnancy Radiological hazards (hazards of radiation) 	<ul style="list-style-type: none"> Ascertain age of victim (person) from radiological studies. Diagnose pregnancy. 			Radiology & Forensic Medicine
Toxicological and forensic aspect <ul style="list-style-type: none"> Common poisons Atropine Morphine and its derivatives- heroin /phensidyl Tranquillisers Barbiturates Alcohol Canabis in different forms 	<ul style="list-style-type: none"> Identify the P.M Findings in case these poisons. 			Pharmacology & Therapeutics & Forensic Medicine
Insecticides / pesticides <ul style="list-style-type: none"> Organophosphorus compounds Chloronocompounds 	-Do-			
<ul style="list-style-type: none"> Classification and definition of mental disorders. Mental disorders and crime Mental disorders and Civil and Criminal responsibilities 	<ul style="list-style-type: none"> Diagnose a case of mental disorder & fix up his civil, criminal & social responsibilities. 			Psychiatry & Forensic Medicine

Continued				
<ul style="list-style-type: none"> • legal aspect and clinical aspect • Injuries in general • Head injury and neck injury • Chest injuries • Abdominal injuries • Burns and scalds 	<ul style="list-style-type: none"> • Identify & interpret these injuries in living and dead bodies. 			Surgery & Forensic Medicine
<ul style="list-style-type: none"> • Anaesthetic hazards and causes of death • Respiratory failure in poisoning 	<ul style="list-style-type: none"> • Identify death due to anaesthetic hazards. 			Anaesthesiology & Forensic Medicine
<ul style="list-style-type: none"> • Inflammation • Infection • Histopathological studies: <ol style="list-style-type: none"> 1. Antemortem wounds 2. Post-mortem wounds 3. Lungs and other viscera in asphyxial death and correlation with pneumonia and pulmonary oedema 4. Detection of bloodstain and seminal stain. • Pathological study of hair: <ol style="list-style-type: none"> 1. Pathological studies of sudden death 2. Pregnancy tests 3. H.L.A., blood group and paternity 	<ul style="list-style-type: none"> • Understand the pathological changes in these conditions. 			Pathology & Forensic Medicine
<ul style="list-style-type: none"> • Pregnancy • Abortion • Labour • Lactation 	<ul style="list-style-type: none"> • Understand how to diagnose these cases with their medico-legal importance. 			Obstetric & Gynaecology & Forensic Medicine

Academic Calendar for Forensic Medicine

3 rd Year														
1 st TERM Microbiology/ Pharmacology/ Forensic Medicine/ Pathology/ Community Medicine/ Clinical										2 nd TERM				
1	2	3	4	5	6		7	8	9	10	11	12		
<div><div><input type="checkbox"/> Forensic Medicine, Medical Jurisprudence</div><div><input type="checkbox"/> BMDC, Rights & Privileges of Doctors, Code & law of medical ethics, Professional Secrecy.</div><div><input type="checkbox"/> Inquest, Medical certification, Medicological reports including dying declaration, Courts procedures, Medico-legal systems.</div><div><input type="checkbox"/> Malpraxis, Consent, Duties of medical practitioners.</div><div><input type="checkbox"/> Death, Changes after death, identification, Medical-legal autopsy</div></div>					1+2 2+2 2+2 2+1 3+3 20 hrs.	Internal assessment	<div><div><input type="checkbox"/> Wounds, Regional injuries due to physical agents, Wound certification, Vehicular injuries.</div><div><input type="checkbox"/> Asphyxial death</div><div><input type="checkbox"/> Pregnancy and delivery, Abortion, Infanticide, Biological fluid/ swabs preservation and despatch, Sexual offences, Impotence and sterility, Artificial insemination and disputed paternity and maternity, Forensic psychiatry</div></div>				5+3 4+2 11+1 6 32 hrs.	Internal Assessment		
C L I N I C A L E X P O S U R E														
Surgery				Medicine				Surgery/ allied			Medicine/ allied			

4 th Year													
3 rd TERM Microbiology/ Pharmacology/ Forensic Medicine/ Pathology/ Community Medicine/ Clinical											4 th TERM		
1	2	3	4	5		6	7	8	9	10	11	12	
<div><div><div>❑ General aspect of poisoning and its classification, Medicolegal Autopsy in poisoning, Preservation and despatch of viscera, management of acute poisoning.</div><div>❑ Strong acids and alkalis, Metallic poison, Deliriant poison, inebriants.</div><div>❑ Gaseous poisons, Insecticides, Animal poison</div></div></div>				Lec.	5+1 5+2 3+2 18 hrs.	Internal assessment Practical 10 hrs. Tutorial 10 hrs.	Community Medicine Block Revision Tutorials Autopsy court visits, visit of chemical laboratory for other batches					18 hrs.	2 nd Professional Exam. Tutorial – 15 hrs. Practical– 15 hrs.
Medicine/ Paediatrics			Surgery & allied				Gynae Obs						
C L I N I C A L E X P O S U R E													

9All disciplines will have 9 component of items in their card. Total distribution of teaching hours:- 934 hours:

- Hours of Teaching
 - Large group
 - * Lecture - 70 hours
 - Small group
 - * Practical - 40 hours
 - * Tutorial - 40 hours
- Total = 150 hours

Microbiology = 210 hours	Community Medicine = 244 hours	Forensic Medicine = 150 hours	Pharmacology =180 hours	Pathology = 200 hours	
					Card completion assessment

MEDICINE

DEPARTMENTAL OBJECTIVES

At the end of clinical postings in Medicine, the under graduate medical student will be able to:

- achieve knowledge, attitude and behaviour to become an effective doctor for the society
- elicit an appropriate clinical history, and physical findings, elucidate the clinical problems based on these and identify the means of solving the problems
- request for requisite relevant laboratory tests and perform common side lab procedures, justify and interpret them
- outline the principles of management of various diseases considering the patient's socio-economic circumstances
- diagnose and manage medical emergencies
- recognise, provide competent initial care and refer complicated cases to secondary and tertiary care centres at appropriate time
- perform clinical procedures
- possess knowledge to consider the ethical, and social implications of his/ her decision
- demonstrate the art of medicine involving communication, empathy, reassurance with patients
- develop an interest in care for all patients and evaluate each patient as a person in society
- have an open attitude to the newer developments in medicine to keep abreast of new knowledge
- learn how to adapt new ideas in situations where necessary

INTERNAL MEDICINE

At the end of the course of Internal Medicine the undergraduate medical students will be able to :

COURSE OBJECTIVES

- diagnose and manage various common medical conditions prevalent in the community (particularly in Bangladesh) and give proper counselling to patients and relatives
- recognise, provide competent initial care and refer complicated cases to secondary and tertiary care centres at appropriate time
- diagnose and manage medical emergencies commonly encountered in hospital practice
- demonstrate the awareness of the need to keep abreast to new knowledge and techniques in medicine

MEDICINE

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Introduction to General Medicine Students will be able to:</p> <ul style="list-style-type: none"> Describe Patients-Physician relationship, clinical skills required for history taking. Physical care and laboratory tests, care for diagnosing a disease step wise and carryout for a patient Define, differentiate, diagnose diseases. Differentiate clinically (H&PE) one DD from other. 	<p>Overview of medicine as a discipline and subject</p> <p><u>Approach to common symptoms of disease:</u></p> <ul style="list-style-type: none"> Pain Fever Dyspnoea Cough, expectoration, and haemoptysis Anorexia, Nausea, Vomiting Haematemesis, Melaena, haematochezia Diarrhoea and dysentery Constipation Oedema and anasarca Abdominal swelling and Ascitic Jaundice/ Ascitic Weight loss and weight gain Fainting, syncope & seizures Palpitation Head-ache, dizziness and vertigo Paralysis, movement disorders & disorders of gait Coma and other disturbances of consciousness Common urinary symptoms including anuria, oliguria, nocturia, polyuria, incontinence and enuresis Anaemia and bleeding Enlargement of lymphnodes and spleen Joint pain, neck pain and back ache History and concept of psychiatry Approach to skin diseases 	Lecture	<p>Chalk Board</p> <p>Slides</p> <p>Photograph</p> <p>OHP</p> <p>Video if possible</p>	<p>L- 24 hrs.</p> <p>1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr. 1 hr.</p>	<p>Written examination</p> <p>SEQ</p> <p>MCQ</p> <p>Practical</p> <p>OSCE</p> <p>Short case</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>B. Clinical Medicine: Nutritional Factors in diseases</p> <p><u>Knowledge :</u></p> <p>The students will be able to :</p> <ul style="list-style-type: none"> • Use nutritional knowledge in clinical medicine • define nutrition and its importance • describe normal requirement for maintaining health at various periods of human life including healthy adult, pregnancy, infancy, childhood and adolescence • classify nutritional disorders • define Protein energy malnutrition in adults, describe associated factors, precipitating factors • list the clinical features, describe treatment of protein-energy malnutrition • list and recognise the clinical features, describe treatment and advise for prevention and treatment of vitamin deficiency diseases • list and recognise the clinical features, describe treatment and advise to be given for prevention and treatment of deficiency diseases • list and recognise the clinical features, describe treatment and advice to be given for prevention of obesity 	<p>CORE :</p> <ul style="list-style-type: none"> • Energy yielding nutrients • Protein energy malnutrition in adult • Water electrolyte and minerals • The vitamins- deficiency and excess <p>Additional</p> <ul style="list-style-type: none"> • Nutrition of patients in hospital • Obesity 	Lecture	<p>OHP</p> <p>Slide</p> <p>Black board</p> <p>Flow chart</p>	L - 2 hrs.	<p>SEQ</p> <p>Oral</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Climatic and environmental factors in disease</p> <p>The students will be able to :</p> <ul style="list-style-type: none"> list the clinical features, describe treatment and advise for prevention of heat hyperpyrexia, heat syncope and heat exhaustion and hypothermia list the clinical features, describe treatment and advise for prevention of pollution related to : <ul style="list-style-type: none"> Arsenic problem Lead poisoning Mercury poisoning Fluorosis Environmental radiation 	<p>Additional</p> <ul style="list-style-type: none"> Disorders related to temperature Disorders related to pollution Drowning, electrocution and radiation hazards Disorder related to altitude Disorder related to changes in barometric pressure 	Lecture	<p>OHP</p> <p>Slide</p> <p>Black board</p> <p>Flow chart</p>	L - 2 hrs.	<p>SEQ</p> <p>Oral</p>
<p>Diseases due to infection</p> <p>The students will be able to:</p> <ul style="list-style-type: none"> Learn about diagnostic approach to infectious diseases Explain principles of management of infection Describe general principles and rational use of antibiotics and other chemotherapy against infectious and parasitic diseases List the clinical features, describe treatment and advise for prevention of common infectious and tropical diseases. 	<p>CORE :</p> <ul style="list-style-type: none"> Approach to infectious diseases-diagnostic and therapeutic principles General principles and rational use of antibiotics <p>Additional</p> <ul style="list-style-type: none"> Infectious mononucleosis Brucellosis 	Lecture	<p>OHP</p> <p>Slide</p> <p>Black board</p> <p>Flow chart</p>	L-17 hrs.	<p>SEQ</p> <p>Oral</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
	<ul style="list-style-type: none"> • Enteric fever • Cholera & diarrhoeal diseases, food poisoning • Tetanus <p>Influenza and other common viral respiratory infections</p> <ul style="list-style-type: none"> • Amoebiasis, giardiasis • Kala-azar • Malaria • Filariasis <p>Helminthic diseases</p> <ul style="list-style-type: none"> • Nematodes • Cestodes • Trematodes <p>HIV and infections in the immuno compromised conditions</p> <ul style="list-style-type: none"> • Rabies <p>Herpes simplex & herpes zoster, common exanthema like</p> <ul style="list-style-type: none"> • Measles • Mumps • Chickenpox • Viral haemorrhagic fever 	<p>Lecture (Ward)</p> <p>Clinical case Presentation</p> <p>Self reading & Learning</p>	<p>OHP</p> <p>Slide</p> <p>Black board</p> <p>Patient</p>		<p>SEQ</p> <p>Practical</p> <p>Oral</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Diseases of the blood</p> <p>The student will be able to define, describe prevalence, aetiologic factors, pathophysiology, pathology, investigations and principles of treatment of the common problems in haematology.</p>	<p>CORE :</p> <ul style="list-style-type: none"> • Anaemia: iron deficiency • Common Haemolytic anaemia (Thalassaemia, sickle cell and acquired haemolytic anaemia) • Common bleeding disorders (Thrombocytopenia, and haemophilia. • Agranulocytosis and aplastic anaemia. • Leukaemas: acute and chronic • Lymphomas • Multiple myelomas <p>Additional</p> <ul style="list-style-type: none"> • Megaloblastic anaemia • DIC 	<p>Lecture (Ward)</p> <p>Clinical case Presentation</p> <p>Self reading & Learning</p>	<p>OHP</p> <p>Slide</p> <p>Black board</p> <p>Patient</p>	<p>L - 9 hrs.</p>	<p>SEQ</p> <p>Practical</p> <p>Oral</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Diseases of the respiratory system</p> <p>The students will be able to:</p> <ul style="list-style-type: none"> Describe applied anatomy and physiology & explain lung function tests; Define, describe prevalence, aetiologic factors, pathophysiology, pathology, investigations and principles of treatment of common respiratory diseases. 	<p>CORE :</p> <ul style="list-style-type: none"> Applied anatomy and physiology Investigations for respiratory diseases Upper respiratory tract infections Pneumonias Tuberculosis Lung abscess and bronchiectasis <i>Diseases of the pleura: Pleurisy, Pleural effusion & empyema, Pneumothorax</i> Chronic Obstructive lung diseases and corpulmonale Bronchial asthma & pulmonary eosinophilia Acute and chronic respiratory failure Neoplasm of the lung <p>Additional:</p> <ul style="list-style-type: none"> Common occupational lung disease 	<p>Lecture (Ward)</p> <p>Clinical case Presentation</p> <p>Self reading & Learning</p>	<p>OHP</p> <p>Slide</p> <p>Black board</p> <p>Patient</p>	<p>L - 13 hrs.</p>	<p>SEQ</p> <p>Practical</p> <p>Oral</p> <p>X-ray</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Diseases of the cardiovascular system The student will be able to :</p> <ul style="list-style-type: none"> Describe applied anatomy, applied physiology and investigations for the diseases of cardiovascular system Describe aetiology, pathophysiology, clinical features, investigations and treatment of Ischaemic heart disease <ul style="list-style-type: none"> Angina pectoris Myocardial infarction Sudden (cardiac) death Describe aetiology, pathophysiology, clinical features, investigations and treatment of <ul style="list-style-type: none"> acute rheumatic fever rheumatic heart diseases Describe aetiology, pathophysiology, clinical features, investigations and treatment of valvular diseases <ul style="list-style-type: none"> Mitral stenosis & regurgitation Aortic stenosis & regurgitation Tricuspid & pulmonary valve diseases Describe aetiology, pathophysiology, clinical features, investigations, treatment and complications of infective endocarditis Describe aetiology, pathophysiology, clinical features, investigations, treatment and complications of systemic hypertension Define and describe cardiac arrhythmias <ul style="list-style-type: none"> Sinus rhythms Atrial tachy arrhythmias Junctional tachyarrhythmias Ventricular tachyarrhythmias Cardiac arrest Anti arrhythmic drugs Heart block and pacemakers. 	<p>CORE :</p> <ul style="list-style-type: none"> Applied anatomy and physiology and investigations Ischaemic heart disease Rheumatic fever and Rheumatic heart disease Valvular diseases of heart Infective endocarditis Hypertension and hypertensive heart diseases Cardiac arrhythmias (common) Heart failure – acute chronic Acute and chronic pericarditis, pericardial effusion, & cardiac tamponade <p>Additional :</p> <ul style="list-style-type: none"> Peripheral arterial diseases and Venous thrombosis Common congenital heart diseases in child and adult 	<p>Lecture</p> <p>Ward</p> <p>Demonstration of X-rays</p>	<p>Chalk</p> <p>Board</p> <p>OHP</p> <p>Slide</p> <p>Video</p> <p>X-rays</p> <p>ECG</p>	<p>L - 12 hrs.</p>	<p>MCQ</p> <p>SEQ</p> <p>OSCF</p> <p>Short case</p> <p>X-rays</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Describe congenital heart diseases <ul style="list-style-type: none"> ASD VSD PDA TOF Coarctation of Aorta Define, describe patho-physiology, types, clinical features, investigation and treatment of heart failure Define, describe patho-physiology, causes, clinical features, and treatment of acute circulatory failure Describe aetiology, pathophysiology, clinical features, investigations, treatment and complications of diseases of the pericardium: <ul style="list-style-type: none"> Acute pericarditis Pericardial effusion 					
<p>Diseases of the Gastrointestinal tract</p> <p>The students will be able to :</p> <ul style="list-style-type: none"> Understand Physiology of Gastrointestinal tract Define, describe the aetiology, pathophysiology, investigation, complications and management. of peptic ulcer disease Define, describe the aetiology, pathophysiology, investigation and management. of gastrointestinal haemorrhage Describe Investigations of the alimentary tract. Define, describe the causes, pathophysiology, investigation and management. of gastro-oesophageal reflux disease Define, describe the aetiology, pathophysiology, investigation and management. of dysphagia. 	<p>CORE :</p> <ul style="list-style-type: none"> Applied physiology and investigation of the alimentary tract. Peptic Ulcer disease and non-ulcer dyspepsia Malabsorption syndrome Irritable bowel syndrome and inflammatory bowel disease Acute viral hepatitis and chronic hepatitis Abdominal tuberculosis <p>Additional:</p> <ul style="list-style-type: none"> Dysphagia Hepatotoxicity of drugs 	<p>Lecture</p> <p>Ward</p> <p>Teaching</p>	<p>OHP</p> <p>Black board</p> <p>Slides</p> <p>Slide Projectors</p> <p>Samples</p> <p>Patients</p>	<p>L – 12 hrs.</p>	<p>Writer</p> <p>MCQ</p> <p>OSCE</p> <p>Viva</p> <p>Short Case</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Define, describe the aetiology pathophysiology, investigation and management of malabsorption disorders Define, describe the aetiology, pathophysiology, investigation and management of Inflammatory bowel disease - Crohn's disease, Ulcerative colitis. Define, describe the aetiology, pathophysiology, investigation and management of Intestinal tuberculosis Define, describe the aetiology, pathophysiology, investigation and management of functional disorders of GIT <ul style="list-style-type: none"> Globus hystericus Non ulcer dyspepsia Irritable bowel syndrome 					

Learning Objectives	Contents	Teaching/Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Nephrology & Urinary System</p> <p>The students will be able to acquire knowledge, skill and attitude for :</p> <ul style="list-style-type: none"> • Definitions • Diagnosis • Differential diagnosis • Investigations • Assessment • Basic/ Initial treatment • Referral & Follow-up care • Prevention • Gender differences & issues, e.g. UTI in males & females • Special dietary modulations & Nutrition • Outline of RRT • Indications for RRT • Community follow up and management of common super imposed disorders on CRF, RAG • Outlines of special renal medicines & their interactions with commonly used medicines • Nephrotoxicity of drugs • Indication for Renal biopsy and patient preparation • Patient education about renal disorders • Common disorders with renal sequel e.g., malaria, diabetes, hypertension, pregnancy • Appropriate use of therapeutic tools • Use interpretation of charts & lab data • Orientation & Care of modified Anatomy & Physiology, e.g. A-V Fistula, Renal Allograft. 	<ul style="list-style-type: none"> • Nephritic & Nephrotic Illness • UTI/ Pyelonephritis • ARF • CRF 	Lectures	<p>OHP</p> <p>Blackboard</p> <p>Slide projectors</p> <p>Slides</p> <p>Samples</p>	5 hrs.	<p>Direct QA</p> <p>MCQ</p> <p>OSCE</p> <p>Real time clinical problems</p> <p>Lab data interpretation</p> <p>SAQ</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Neurological System (5th Year) Student should be able to: <ul style="list-style-type: none"> Identify syndromes of CNS & PNS diseases Identify signs of CNS & PNS diseases Identify clinical syndromes of Brain, Spinal Cord & P.N. disorders Plan investigations in Neurological disease Identify Vascular neuralgic syndromes. Define where? & What? is the lesion Evaluate for risk factors of CVD's Acute management & Subsequent management. Identify complicating, management Rehabilitation / return of function Identify clinical syndrome of meningeal infection Plan immediate and subsequent investigations including confirmation of diagnosis. Provide give empiric therapy or clinical judgement. Provide Diagnosis & exclusion Identify & treats complications. Able to make a D/D of coma & differentiate structural cause of diseases from others Plan investigations in a suspected V. encephalitis. General management of patient with fever, coma & convulsion. Specific Diagnosis of V encephalitis & treatment for cause. Identify acute & chronic syndromes of P.N.S. Identify emergencies and manage D/D Management & Rehabilitation 	<ul style="list-style-type: none"> Concept of neurological diagnosis including investigations Cerebrovascular diseases Meningitis: viral, bacterial and tuberculous Encephalitis, viral Peripheral neuropathy 	Lecture Ward Teaching	OHP Audio Patients	13 hrs.	SEQ Oral Practical

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student should be able to:</p> <ul style="list-style-type: none"> Identify a seizure & elicit history from an eyewitness. Identify common clinical syndrome of Epilepsy Plan treatment Advise to the patient and attendants. Identify syndrome of EP system Look for aetiologic agent(s) Plan investigations Decide for initial and subsequent treatment. Provide explanation, motivation and rehabilitation advises to patient. Identify common syndromes of motor system disease. Plan investigations Rehabilitation. Identify primary muscle diseases and differentiate from primary neurologic diseases Identify clinical syndrome of NMJ defect. Plan investigations in a suspected muscle diseases Provide treatment for myasthenia gravis. Advise & genetic counselling for muscular dystrophy. Rehabilitation 	<ul style="list-style-type: none"> Epilepsy Extrapyramidal disease Common compressive and noncompressive spinal cord syndromes Motor system disease Myasthenia gravis Myopathies and skeletal muscle disease 	<p>Lecture</p> <p>Ward Teaching</p>	<p>OHP</p> <p>Audio</p> <p>Patients</p> <p>Slides & Projectors</p>	<p>13 hrs. (Total)</p>	<p>SEQ</p> <p>Oral</p> <p>Practical</p>

Learning Objectives	Contents	Teaching / learning strategy	Teaching Aids	Hours / days	Assessment
<p>Water and electrolytes and acid-base homeostasis</p> <p>The students will be able to :</p> <ul style="list-style-type: none"> Describe causes, clinical features and management of fluid and electrolyte disorders including <ul style="list-style-type: none"> Hyponatremia Hypernatremia Hyperkalemia Hypokalemia Hypocalcemia Hypercalcemia Describe causes, clinical features and management of disorders of acid-base balance in particular relevance to vomiting, diagnoses of uraemia and diabetic ketoacidosis. 	<p>CORE :</p> <ul style="list-style-type: none"> Diagnosis and treatment of specific fluid and electrolytic disorders 	Lecture	OHP Audio	L – 2 hrs.	SEQ Oral Practical
<p>Endocrine and Metabolic diseases</p> <p>The student will be able to :</p> <ul style="list-style-type: none"> Describe applied anatomy, physiology and investigations of endocrine disorders Describe epidemiology, aetiology, pathophysiology, clinical features, complications, investigation, treatment and management of diabetes mellitus Describe epidemiology, aetiology, pathophysiology, clinical features, complications, investigation, treatment and management of disorders of thyroid including <ul style="list-style-type: none"> Hyperthyroidism Hypothyroidism Simple goitre Solitary thyroid nodule Describe epidemiology, aetiology, pathophysiology, clinical features, complications, investigation, treatment and management disorders of adrenal gland including <ul style="list-style-type: none"> Cushing's syndrome Addison's disease Describe epidemiology, aetiology, pathophysiology, clinical features, complications, investigation, treatment and management of disorders of hypothalamus and pituitary gland including <ul style="list-style-type: none"> Acromegaly, Sheehan's syndrome 	<p>CORE :</p> <ul style="list-style-type: none"> Diabetes mellitus Thyrotoxicosis Hypothyroidism and Iodine deficiency state. Cushing's syndrome and Addisons disease. <p><i>Additional</i></p> <ul style="list-style-type: none"> Acromegaly and Sheehan's syndrome 	Lecture Ward Teaching	OHP Audio Patient	L – 6 hrs.	SEQ Oral Practical SOCE

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Connective tissue Disorder The students will be able to: <ul style="list-style-type: none"> • classify diseases of the connective tissues, joints and bones • describe epidemiology, aetiology, pathology, clinical features, complications, investigation, treatment and management of Inflammatory joint diseases including <ul style="list-style-type: none"> ❑ Rheumatoid arthritis ❑ Spondarthritis ❑ Juvenile idiopathic arthritis ❑ Infective arthritis • describe epidemiology, aetiology, pathogenesis, clinical features, investigation, diagnosis, treatment and management of <ul style="list-style-type: none"> ❑ Osteoarthritis • describe epidemiology, aetiology, pathogenesis, clinical features, investigation, diagnosis, treatment and management of connective tissue diseases including <ul style="list-style-type: none"> ❑ Systemic lupus erythematosus, systemic sclerosis • describe epidemiology, aetiology, clinical features, investigation, diagnosis, treatment and management of gout • describe causes, clinical features, investigations, treatment and management of back disorders including <ul style="list-style-type: none"> ❑ Lowback pain ❑ Spondylosis 	CORE : <ul style="list-style-type: none"> • Rheumatoid arthritis and reactive arthritis • Degenerative joint diseases including cervical spondylosis • Gout Additional : <ul style="list-style-type: none"> • Osteoporosis, Ankylosing spondylitis, Osteomalacia. • The collagen vascular diseases including systemic lupus erythematosus, systemic sclerosis 	Lecture Ward teaching	OHP Audio Patients	L - 6 hrs.	SEQ Oral Practical

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Geriatric medicine The students will be able to learn about : <ul style="list-style-type: none"> • History taking with elderly patients • Physical examination • Mental status examination • Evaluation of functional capacity in the elderly • Laboratory examinations & imaging • General principles of treating the elderly. 	Additional: <ul style="list-style-type: none"> • General Principles of treating the elderly • Health problems of the elderly • Rehabilitation and Physical medicine. 	Lecture	OHP Audio	L – 4 hrs.	SEQ Oral Practical
Genetic Disorders The students will be able to describe medical genetics including <ul style="list-style-type: none"> ❑ Genes and chromosomes ❑ Mutation ❑ Genes in individual ❑ Genes in families ❑ Disorders of multifactorial causation ❑ Chromosomal aberrations The student will be able to describe the techniques of Medical genetics including <ul style="list-style-type: none"> ❑ Cyto genetics ❑ Biochemical genetics ❑ Molecular genetics ❑ Prenatal diagnosis ❑ Neoplasia : chromosomal & DNA analysis 	Additional : <ul style="list-style-type: none"> • Introduction to medical genetics • Modern techniques of medical genetics • Selected inherited medical diseases <ul style="list-style-type: none"> ❑ Down's syndrome ❑ Klinefelter's syndrome ❑ Marfan's syndrome ❑ Turner's syndrome 	Lecture	OHP Audio	L -2 hrs.	SEQ Oral Practical

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours/days	Assessment
Immunologic disorders The students will be able to describe basic facts of immunology including <ul style="list-style-type: none"> • Immunoglobulins & antibodies • Cellular immunity • Autoimmunity The students will be able to describe aetiology, pathogenesis, pathology, clinical features, investigations and treatment of <ul style="list-style-type: none"> • Immunologic deficiency diseases • Autoimmune disease • Allergic disease 	Additional: <ul style="list-style-type: none"> • Basic facts of immunology • Immunologic deficiency diseases • Auto immunity • Allergy & hypersensitivity • Immunogenetics & Transplantation 	Lecture	OHP Audio	L – 2 hrs.	SEQ Oral Practical
Oncology, Principles The students will be able to describe : <ul style="list-style-type: none"> • Prevention and early detection of common cancers • Primary cancer treatment including <ul style="list-style-type: none"> ❑ Surgery and radiation ❑ Chemotherapy ❑ Adjuvant therapy • Evaluation of tumour response including <ul style="list-style-type: none"> ❑ Tumour size ❑ Tumour markers ❑ General well being and performance status • Role of nuclear medicine in diagnosis and treatment in Medical conditions. 	Additional : <ul style="list-style-type: none"> • General principles of diagnosis and management of neoplastic diseases • Nuclear Medicine 	Lecture	OHP Audio	L -1 hr. 1 hr.	SEQ Oral Practical

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Poisoning and drug overdose The students will be able to describe : <ul style="list-style-type: none"> Initial evaluation of the patient with poisoning or drug overdose General principles of management including <ul style="list-style-type: none"> Care of unconscious patient Respiratory support Cardiovascular support Special problems such as hypothermia, hypertension, arrhythmia, convulsions Management of common specific poisonings including <ul style="list-style-type: none"> organophosphorus compound sedative and hypnotic,(benzodiazepines) detergents, kerosene, pesticides etc. datura, methylalcohol Acute and chronic effects of alcohol and their management Venomous stings, insect bites, poisonous snakes and insects . 	CORE : <ul style="list-style-type: none"> Initial evaluation of the patient with poisoning or drug overdose General principles of management Treatment of common specific poisonings Venomous stings, insect bites, poisonous snakes and insects. Additional: <ul style="list-style-type: none"> Acute and chronic effects of alcohol and their management 	Ward Emergency Lecture	OHP Audio	L – 4 hrs.	SEQ Oral Practical
Emergency medicine The students will be able to describe : <ul style="list-style-type: none"> general principles of intensive care acute disturbances of haemodynamic function including Shock aetiology, pathogenesis, clinical features, investigations, and management in acute medical emergency 	CORE : <ul style="list-style-type: none"> Cardiopulmonary resuscitation Acute pulmonary oedema and severe acute asthma Hypertensive emergencies Diabetic ketoacidosis and hypoglycaemia Status epileptics Acute myocardial infarction, shock and anaphylaxis Upper G.I bleeding and hepatic coma Diagnosis and management of comatose patient 	Ward Emergency room Medical skill centre	Lecture Demonstration Ward Self learning	L -8 hrs.	Written SEQ Viva

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Clinical Methods in the Practice of Medicine Skills : The students should be able to : <ul style="list-style-type: none"> • Use a humane approach during history taking and performing a physical examination • Examine all organs/systems in adults and children including neonates • Arrive at a logical working diagnosis after clinical examination (General & Systemic) • Order appropriate investigations keeping in mind their relevance (need based) and cost effectiveness • Plan and institute a line of treatment which is need based, cost effective and appropriate for common ailments taking into consideration : <ul style="list-style-type: none"> □ patients □ disease □ socio-economic status □ institutional / government guidelines • Recognise situations which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment • Assess and manage fluid / electrolyte and acid-base balance • Interpret abnormal biochemical laboratory values of common disease • Interpret skiagram of common diseases • Identify irrational prescriptions and explain their irrationality • Interpret serological tests such as VDRL, ASO, Widal, HIV, Rheumatoid factor • Demonstrate interpersonal and communication skills befitting a physician in order to discuss the illness and its outcome with patient and family • Write a complete case record with all necessary details 	CORE : <ul style="list-style-type: none"> • History Taking • Physical Examination • Investigations • Diagnosis • Principles of treatment • Interpersonal skills • Communication skills • Doctor - Patient relationship • Ethical Behaviour • Referral services • Medical Certificate • Common Clinical Procedures <ul style="list-style-type: none"> □ Injections □ IV infusion □ FIRST AID □ Intubation □ CPR □ Hyperpyrexia □ ECG □ Skin Sensitivity Test 	Ward OPD Emergency room Medical skill centre Bed side clinics Observation Self learning Assignment	Patient Investigation Reports X-ray Instrument	W-12 weeks (3 rd year) See Appendix-1 W - 8 weeks (4 th year) See Appendix-2 W - 8 weeks (5 th year) See Appendix-3	Oral Card final OSCE (see card I, II, III) Practical

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> • Write a proper discharge summary with all relevant information • Write an appropriate referral note to secondary or tertiary centres or to the physicians with all necessary details • Assess the need for and issue proper medical certificates to patients for various purposes • Record and interpret an ECG and be able to identify common abnormalities like myocardial infarction, arrhythmias • Start I.V. line and infusion • Do venous cut down • Give intradermal / SC / IM / IV / injections • Insert and manage a C.V.P. line • Conduct CPR (Cardiopulmonary resuscitation) and first aid in new born/ children including endotracheal intubation. • Pass a nasogastric tube • Manage hyperpyrexia <p>Student must be able to outline the steps involved in performing the following skills :</p> <p>CORE</p> <ul style="list-style-type: none"> • Lumbar puncture • Bone marrow aspiration • Theracocentesis / parcentesis • Oxygen Therapy • Oropharygeal suction • Shock management • Brochodilator inhalation technology <p>Additional</p> <ul style="list-style-type: none"> • Administration of Enema • Postural drainage • Dialysis • Electro convulsive therapy 		<p>CCU/ ICU Medical Skill centre</p> <p>Ward</p> <p>Emergency</p> <p>Demonstration</p>	<p>Observation Or Video</p> <p>Model</p>		

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Attitude : The student should: <ol style="list-style-type: none"> 1. Develop a proper attitude towards patients, colleagues and the staff. 2. Demonstrate empathy and humane approach towards patients, relatives and attendants. 3. Maintain ethical behaviour in all aspects of medical practice. 4. Develop a holistic attitude towards medicine taking in social and cultural factors in each case 5. Obtain informed consent for any examination / procedure 6. Appreciate patients right to privacy 7. Adopt universal precautions for self protection against HIV and hepatitis and counsel patients 8. Be motivated to perform skin sensitivity tests for drugs and serum 					

Appendix-1

3 rd Year	1 st Round	12 Weeks			
Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Introduction to clinical ward duties and approach to a patient The student will be able to :</p> <ul style="list-style-type: none"> Narrate the role of ward duties in learning clinical medicine. Develop interpersonal and communication skills befitting a physician in order to discuss illness and its outcome with patient and family Elicit different components of history and understand its importance – particulars of the patient, the presenting symptoms, the history of the present illness, H/O previous illness, Family history, Personal & Social history, Drug history, & allergy, menstrual history (in female) record and analyze symptoms of presentation <p>History taking</p> <p>The student will be able to ask patients about :</p> <ul style="list-style-type: none"> cough- nature, relation with chest pain, time of the day, any particular condition aggravates or relieves: Shortness of breath- onset, duration, relation with exertion, episodic or not etc. Haemoptysis- amount, is it rusty or fresh blood Sputum- amount, colour, odour, associated with wheezing. 	<ul style="list-style-type: none"> Art of Medicine Doctor patient relationship <ul style="list-style-type: none"> Different component of history Symptom analysis in relation to diseases of different systems: <ul style="list-style-type: none"> Respiratory System <ul style="list-style-type: none"> Shortness of breath Haemoptysis Cough Sputum Chest pain Fever 	<p>Clinical case taking</p> <p>Ward teaching</p> <p>Practical Demonstration</p> <p>Writing case problem</p> <p>Self test</p> <p>Assignment</p>	<p>Real patients,</p> <p>attendants</p> <p>Simulation</p>		<p>Ward ending examination</p> <p>OSCE</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><u>Nervous System</u></p> <p>The student will be able to:</p> <ul style="list-style-type: none"> Ask the patient about the symptoms e.g. seizure – duration, interval between attack, any injury during attack, sphincter disturbance, aura, Define fit, syncope, hemiplegia, monoplegia, paraplegia etc. <p><u>Urinary System</u></p> <p>The student will be able to:</p> <ul style="list-style-type: none"> Ask the patients about the presenting symptom Define – oliguria, anuria, polyuria, dysuria <p><u>Haemopoetic system</u></p> <p>Students will be able to take relevant history, related to disorders of Haemopoetic system</p> <p>The student will be able to :</p> <ul style="list-style-type: none"> Take detail history about fever and different tropical & infection diseases, animal bite diseases, animal bite like snakebite, dog bite. 	<ul style="list-style-type: none"> Loss of consciousness Fit or convulsion Syncope Paralysis Headache Vertigo <ul style="list-style-type: none"> Puffiness of face Oliguria & anuria, Polyuria Dysuria Incontinence Nocturnal enuresis Loin pain Pus per urethra <p><u>Endocrine System</u></p> <ul style="list-style-type: none"> Swelling of neck Weight gain Weight loss <p><u>Other</u></p> <ul style="list-style-type: none"> Tropical and infections diseases 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><u>General examination</u></p> <p>The student will be able to perform thorough general physical examination, and observe, record and interpret findings.</p>	<ul style="list-style-type: none"> • Appearance ⇐ Facies • Built • Nutrition • Hydration status • Decubitus • Anthropometric measurement • Anaemia, Jaundice, Cyanosis • Clubbing, Koilonychia, leukonychia • Oedema, Dehydration, Pulse, BP, Temperature, Respiration • JVP • Lymph node • Thyroid, salivary gland • Skin, Hair, Nail • Skin (Petichae, purpura, echymosis, bruise, haematoma, rashes), pigmentation • Hair distribution • Nail • Breast • Eye – Proptosis 	Ward	<p>Real Patient</p> <p>Photograph</p>		

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><u>Systemic examination</u></p> <p>Students will be able to :</p> <ul style="list-style-type: none"> • record pulse e.g. radial pulse and peripheral pulse and observe Jugular Venous Pressure • record Blood Pressure • inspect chest shape, symmetry, movement, type of breathing • palpate apex beat, trachea, thrill • percuss cardiac outline, liver dullness and areas of resonance • auscultate the heart sounds, murmur, pericardial rub <p><u>Respiratory System</u></p> <p>Students will be able to :</p> <ul style="list-style-type: none"> • Inspect the chest, palpate trachea, chest for expansion, vocal fremitus • Percuss the lungs. • Auscultate for breath sounds, rhonchi, creps, pleural rub. 	<p><u>CVS</u></p> <ul style="list-style-type: none"> • Pulse, BP, JVP • Pericardium <ul style="list-style-type: none"> □ Inspection □ Palpation □ Percussion □ Auscultation of heart □ Auscultation of lung base • Related G/E of CVS e.g. clubbing, cyanosis, oedema. <ul style="list-style-type: none"> • Respiration rate /Type • Inspection • Palpation • Percussion, Auscultation • Examination of sputum • Lung function test • Pleural fluid aspiration 				

Learning Objectives	Contents	Teaching / Learning Strategy	Teaching Aids	Hours / days	Assessment
<p><u>Nervous System</u></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> • Assess levels of consciousness • Note facial expression • Examine cranial nerves <p>Students will be able to:</p> <ul style="list-style-type: none"> • Examine motor system • Examine sensory system • Examine gait • Elicit signs of meningeal irritation • Can show SLR test <p><u>CSF Study</u></p> <ul style="list-style-type: none"> • Students will have the opportunity to see the lumbar puncture <p><u>Ophthalmoscopy</u></p> <ul style="list-style-type: none"> • Able to examine Fundus by ophthalmoscope 	<ul style="list-style-type: none"> • Higher mental function <ul style="list-style-type: none"> ❑ Co-operation ❑ Appearance ❑ Level of consciousness ❑ GCS ❑ Memory ❑ Speech ❑ Orientation of time, space, person ❑ Hallucination, Delusion, Elusion • Cranial nerves. (1st -12th) • Motor function • Sensory function • Gait • Signs of meningeal irritation • Examination of peripheral nerves - SLR FST • Involuntary movement • CSF Study • ophthalmoscope 	Ward teaching	<p>Patient</p> <p>Clinical skill room</p> <p>Video</p>		

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><u>Rheumatology</u></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Assess joints and muscles by inspection, palpation Test range of movement Test muscle around joints Assess posture <p><u>GIT</u></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Inspect oral cavity, oropharynx. Palpate abdomen e.g. Liver, spleen, kidney Demonstrate fluid thrill, shifting dullness Perform PR examination Observe aspiration of peritoneal fluid <p><u>Urinary system</u></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Detect general signs of renal disease Perform bimanual palpation of kidney, renal tenderness Examination of genitalia Examine urine for sugar, albumin. <p>Able to prepare and read blood film (eg. Malarial parasite)</p> <p>The student will be able to do: physical examination and certain minor procedures e.g. blood film, ESR, Hb%, Urine – albumin, Sugar, Stool ME.</p>	<ul style="list-style-type: none"> Joints ⇐ (Look & feel) Inspection Palpation Movement <p>Muscle</p> <ul style="list-style-type: none"> Wasting Swelling <p>Skeleton</p> <ul style="list-style-type: none"> Survey <ul style="list-style-type: none"> Inspection of oral cavity & oropharynx Abdomen Inspection / Palpation Test for ascites Percussion/ auscultation <ul style="list-style-type: none"> Per-rectal examination Examination of stool, vomitus, groin, genitalia, perianal region Aspiration of peritoneal fluid <ul style="list-style-type: none"> Kidneys Bladder Urethral orifice Urine analysis <p><u>Haemopoietic system</u></p> <p><u>Tropical and infectious illness</u></p> <p><u>Animal bite – snakebite, dog bite</u></p>				

Clinical Registration No. _____

Name : _____

Roll No. _____ Batch _____

Medicine unit : _____

Professor : _____

Duration of Placement (1st Round) from _____ to _____**Grading****A = 75 - 100****B = 60 - 74****C = 50 - 59****D = 40 - 49****E = 00 - 39**

No.	Items	Marks Obtained	Signature of teacher
1.	Procedure of History taking and writing and questions related to elaboration of different systems.		
2.	General examination and questions related to general examination.		
3.	Systemic examination of the Alimentary system and related questions.		
4.	Systemic examination of the Respiratory system and related questions.		
5.	Systemic examination of the Cardiovascular system and related questions.		
6.	Systemic examination of the Renal system and related questions.		
7.	Systemic examination of the Nervous system and related questions.		
8.	Examination of the haemopoietic system and related questions.		
9.	Examination of the musculoskeletal system and related questions.		
10.	Miscellaneous e.g. examination of the hands, lower limbs, neck etc.		

Total attendance _____ days, out of _____ days

Marks obtained in all items (%) _____ & in Card final Examination _____

Comment _____

Professor
Department of Medicine

Registrar
Department of Medicine

4th Year2nd Round

8 Weeks

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Approach to Sign & Symptom Continue to develop skills in history taking & physical examination. Students will be able to: <ul style="list-style-type: none"> Interpret the findings in terms of diseases, possible causes, make a differential diagnosis & plan investigations. 	<u>GIT & HBS</u> <ul style="list-style-type: none"> Ascites Hepatosplenomegaly Oral ulcer Abdominal swelling Abdominal pain Vomiting & diarrhoea Haematemesis, melaena Jaundice <u>CVS</u> <ul style="list-style-type: none"> Respiratory distress Chest pain Jugular Venous Pulse (JVP) Hypertension Abnormal heart sound & murmur Pulse <u>Respiratory System</u> <ul style="list-style-type: none"> Haemoptysis Cough Pleural effusion Pneumothorax Collapse, Consolidation, Fibrosis Breath sound Sputum analysis 	Ward	Patients, Investigation reports, Exam ECG Instrument Photograph Video		Oral Card final OSCE

Department of Medicine**Card - II**
(4th Year)**Grading****A = 75 - 100****B = 60 - 74****C = 50 - 59****D = 40 - 49****E = 00 - 39**

Name of the student : _____

Roll No. _____

Medicine unit : _____

Name of Professor : _____

Duration of Placement (2nd Round) from _____ to _____

Total attendance _____ days, out of _____ days

No.	Items	Marks obtained	Signature of Teacher
1.	Review of clinical methods		
2.	Respiratory diseases		
3.	Cardiovascular diseases		
4.	Alimentary & Hepatobiliary disorders		
5.	Renal diseases		
6.	Endocrine disorders		
7.	Haemopoietic disorders		
8.	Diseases of Nervous system		
9.	Infectious diseases		
10.	Common Laboratory investigations		
11.	Basic knowledge on X-ray & ECG		

Marks Obtained:**Comments:****Professor**

Department of Medicine

Registrar

Department of Medicine

Appendix-3

5 th year	3 rd Round	8 Weeks			
Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Review of history taking & clinical examinations (3rd year, 4th year)</p> <p>Students will be able to :</p> <ul style="list-style-type: none"> take detailed history from a patient carry out detailed general and systemic clinical examination <p>Case discussion</p> <ul style="list-style-type: none"> present long cases on different body system including <ul style="list-style-type: none"> Respiratory System Cardiovascular System Gastro-intestinal System Endocrine System Urinary System Haematology system Nervous System Rheumatology Infections Plan appropriate investigations Plan appropriate treatment of common medical conditions 	<p><u>Review of history taking & clinical examinations (3rd year, 4th year)</u></p> <p>Case discussion</p> <p><u>RS</u></p> <ul style="list-style-type: none"> □ Long cases □ COPD □ Bronchogenic carcinoma □ Pneumonia <p>CVS</p> <ul style="list-style-type: none"> □ CCF □ CHD □ IHD □ VHD □ Rheumatic heart disease □ Hypertension □ Pericardial diseases 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Evaluate the patients by follow up and monitoring Assist in managing critically ill patients Interpret various common investigation reports – ECG, X-rays, Biochemical tests, etc. Assist doctors in counselling patients and their families about treatment, follow up and prevention. 	<p><i>GIT</i></p> <ul style="list-style-type: none"> Haematemesis & mealea PUD V. Hepatitis CLD Carcinoma of Liver Pancreatitis Hepatic failure <p><i>Endocrine</i></p> <ul style="list-style-type: none"> Hyperthyroidism Hypothyroidism DM <p><i>Rheumatology</i></p> <ul style="list-style-type: none"> Rheumatoid arthritis Seronegative arthritis Osteoarthritis Gout <p><i>Urinary</i></p> <ul style="list-style-type: none"> GN NS ARF CRF UTI <p><i>Haematology</i></p> <ul style="list-style-type: none"> Anaemia Leukaemia Bleeding diathesis 	<p>Ward</p> <p>Medical skill centre</p>	<p>Patients</p> <p>Investigation</p> <p>Reports</p> <p>Exams</p> <p>ECG</p> <p>Instrument</p>		<p>Oral</p> <p>Card final</p> <p>OSCE</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> The student will develop in-depth skills, in history taking, clinical examination, diagnosis and management of NS diseases & infectious diseases. 	<p style="text-align: center;"><i>NS</i></p> <ul style="list-style-type: none"> CVD MND MS M.Gravis Parkinsonism Peripheral neuropathy GBS Cranial neuropathy <p style="text-align: center;"><i>Infection</i></p> <ul style="list-style-type: none"> Enteric fever Malaria Kala Azar Filarisis Amoebiasis Tetanus Rabies Poisoning Snake bite Tuberculosis Leprosy Diarroehea & Dysentery Shock Dengue 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> present short cases on different body system <p>Students will be able to:</p> <ul style="list-style-type: none"> develop certain skills carry out certain procedures e.g. lumbar puncture under supervision, IM injection, IV injection, Infusion 	<p>Short Cases :</p> <ul style="list-style-type: none"> <input type="checkbox"/> Hepato or Splenomegaly or both <input type="checkbox"/> Pleural effusion <input type="checkbox"/> Pneumothorax <input type="checkbox"/> Consolidation <input type="checkbox"/> Collapse <input type="checkbox"/> Fibrosis <input type="checkbox"/> Hemiplegia <input type="checkbox"/> Paraplegia <input type="checkbox"/> Facial nerve palsy (UMN + LMN) <input type="checkbox"/> Ascities <input type="checkbox"/> Lymphadenopathy <input type="checkbox"/> Thyroid <input type="checkbox"/> Examination of knee <input type="checkbox"/> Examination of precordium <input type="checkbox"/> Auscultation of lung <p>Clinical skills :</p> <ul style="list-style-type: none"> • Bone Marrow aspiration • Aspiration of serous fluid <ul style="list-style-type: none"> <input type="checkbox"/> Pleural <input type="checkbox"/> Peritoneal <input type="checkbox"/> Pericardial • Foley's catheterization • Intercostal tube • I/V canula • Lumbar puncture • Venesection • CPR 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Interpretation of Laboratory Data</p> <p>Students will be able to :</p> <ul style="list-style-type: none"> interpret routine examination findings for Blood, Stool, Urine interpret FBS and GTT interpret certain specific laboratory tests e.g. Liver Function Tests etc. <p>Students will be able to:</p> <ul style="list-style-type: none"> interpret common radiological findings on plain skiagrams of chest, skull, sinuses, neck, abdomen, pelvis, upper and lower extremities 	<ul style="list-style-type: none"> Interpretation of Laboratory Data General : <ul style="list-style-type: none"> Blood for R/E Urine for R/E Stool for R/E FBS / GTT Specific : <ul style="list-style-type: none"> Liver function test (LFT) Thyroid function test (TFT) Kidney function test Pulmonary function tests (PFT) Test for malabsorption Test for rheumatology Test for neurology Cardiac function test Haematological test Test for certain infectious diseases, e.g. Widal test. Radiology : <ul style="list-style-type: none"> X-ray chest X-ray <ul style="list-style-type: none"> Bones Skull Joints X-ray abdomen 				

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> • interpret findings on certain contrast X-rays e.g. Barium Meal etc. • establish a good-student patient relationship • communicate with patients in understanding manner. • observe and assist in terminal care • observe in care of death & dying patient 	<ul style="list-style-type: none"> • Contrast X-rays : <ul style="list-style-type: none"> ❑ Barium Meal ❑ Barium Follow through ❑ Barium Enema ❑ OCG ❑ ERC ❑ Myelogram ❑ IVU. • USG • CT & MRI • Communication Skills • Terminal Care • Care of death and dying 				

Note:

1. Each student will be able to get certain number of beds, they will write down their history, physical examination, follow-up, observe the management and follow-up including counselling.
2. Each student will submit a complete case history per week of placement in every assignment in medicine.

Department of Medicine

Card - III (5th Year)

Grading

A = 75 - 100

B = 60 - 74

C = 50 - 59

D = 40 - 49

E = 00 - 39

Name of the student : _____

Roll No. _____

Medicine unit : _____

Name of Professor : _____

Duration of Placement (3rd Round) from _____ to _____

Total attendance _____ days, out of _____ days

No.	Items	Marks obtained	Signature of Teacher
1.	Respiratory diseases		
2.	Cardiovascular diseases		
3.	Alimentary & Hepatobiliary disorders		
4.	Renal diseases		
5.	Endocrine disorders		
6.	Bones, joints & connective tissue diseases		
7.	Diseases of nervous system		
8.	Haemopoietic disorders		
9.	Interpretation of X-ray		
10.	Interpretation of ECG		
11.	Instrumental uses in clinical practice		
12.	Interpretation of laboratory investigations		

Marks obtained (%):

Professor
Department of Medicine

Registrar
Department of Medicine

Physical Medicine

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Knowledge</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> • describe historical aspect, spectrum of physical medicine, and various modalities of physical therapy • describe rehabilitative management of certain conditions including: <ul style="list-style-type: none"> ❑ Rheumatoid Arthritis and other inflammatory arthritides ❑ Degenerative Joint diseases ❑ Stroke ❑ Degenerative Joint diseases ❑ Stroke and other neurological diseases <p>Skill</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> • identify the various modalities of physical therapy • plan to apply physical therapy for certain clinical conditions 	<p>CORE:</p> <ul style="list-style-type: none"> • Introduction to physical Medicine and Rehabilitation 	<p>Demonstration</p> <p>Ward Teaching See Appendix-1</p>	<p>OHP</p> <p>Slides</p> <p>Board</p>	<p>5th Year 5 hours</p> <p>2 Weeks 5th Year</p>	<p>SEQ</p> <p>Oral</p>

**Physical Medicine
Clinical Attachment (WARD DUTY)
Total Weeks : 4th Year**

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Students will be able to: <ul style="list-style-type: none"> outline the role and importance of Physical Medicine identify the various modalities of Physical Medicine plan to apply physical therapy for certain clinical conditions 	<ul style="list-style-type: none"> Introduction to Physical Medicine <ul style="list-style-type: none"> History Background Spectrum Visit to Physical Medicine Ward Modalities of Physical Therapy Management and Rehabilitation of <ul style="list-style-type: none"> Neck pain Back pain Painful Conditions of upper & lower extremities Neurological conditions including Stroke Spinal injuries Arthritis & allied conditions Non-surgical & post operative complications Paediatric paralytic conditions including cerebral palsy 	4th Year- 2 weeks Ward/ OPD/ Clinic	Patient Observation	1 day 2 day 1 day 1 day 1 day 2 day 1 day 1 day 1 day 1 day	Oral OSCE Card

Annex-

CARD for Physical Medicine

ITEM	MARKS	Signature
Definition, Historical aspects, background, spectrum of Physical Medicine & visit in Physical Medicine ward		
Various modalities of Physical therapy		
Various modalities of Physical therapy		
Management and Rehabilitation of Neck Pain		
Management and Rehabilitation of Back Pain		
Management and Rehabilitation of painful conditions of upper & lower limbs		
Management and Rehabilitation of stroke and other Neurological conditions		
As above		
Management and Rehabilitation of Spinal injuries		
Management and Rehabilitation of Arthritis and allied conditions		
Management and Rehabilitation of non surgical orthopaedic & post operative complication		
Management and Rehabilitation of Cerebral Palsy and other paediatric paralytic conditions		

Annex-

TIME SCHEDULE
MEDICINE LECTURE

Time:

Days:

Discipline	3 rd Year	4 th Year	5 th Year
Medicine	24 hours	43 hours	90 hours
Paediatrics	04 hours	21 hours	25 hours
Psychiatry	10 hours	10 hours	
Skin & VD	05 hours	10 hours	
	Weekly once	4 th & 5 th Year combined	05 hours
		4 th & 5 th Year separate: 4 th Year – 5 th Year -	02 hours 04 hours

Tutorial: Time 02 hours **Last 2 months (1 month prior to examination)**

N.B: Splitting of lectures in 4th & 5th year will be feasible if space, teachers are made available.

WARD DUTY

Time: 09.00 – 11.00 a.m. & 07.00 – 09.00 p.m. (04 hours)

Subject (Weeks)

Day: 6 days/ Week

Year	Total Weeks	Medicine	Emergency	Paediatrics	Psychiatry	Skin/ infectious diseases
3 rd	20	12	02	04		01 Skin & VD 01 infectious disease
4 th	16	8	Physical Medicine & Rehabilitation 02		04	02 Skin & VD
5 th	16	8+OPD 2 =10		06		
	52	(52×6×4)= 1248 hours				

Note : Teachers for supervising the evening duties must be made available.

INTEGRATED TEACHING EXERCISE

- The integrated teaching should be established as a routine
- It should be on selected topics
- It should be started from year 3 M.B.B.S Class
- It should involve teachers of pre-clinical, para-clinical & clinical subjects
- It should be on theoretical, clinical & Paraclinical aspects aided by audio-visual devices
- Programme should be made well ahead of commencement of the course & concerned persons shall be informed in time
- It should be mostly community, Primary Health Care & National Health problems oriented
- It should be held preferably once a month each for two hours between 9 - 11 a.m
- It should involve all clinical students & teachers and the site, lecture theatre & attendance must be recorded

Some examples of MULTI-DISCIPLINARY INTEGRATED EXERCISE topics are:

Trauma
Cancer
Tuberculosis
C P R
Jaundice
Acid base electrolyte balance / imbalance
Death and dying

- Medical ethics
- Maternal and child health

Diabetes Mellitus

Departments:
MEDICINE + SURGERY + OBGYNE

Day : Thursday
Time : 09.00 – 11.00 a.m.
Frequency : Once in a month

WARD PLACEMENT

- To introduce uniform card system and feasible card in all the medical colleges
- To prepare a central card for different components of medicine incorporating teachers of all medical colleges on priority basis
- Each card will carry 100 marks, 10% of the card marks will be added to the summative assessment
- 52 weeks- 100 mark.

OPPORTUNITY FOR COMMUNITY ORIENTATION

- Teaching / learning sessions will be organised in inpatient departments in different wards e.g. Internal medicine, Paediatrics, Psychiatry, Dermatology, etc, outpatient departments, emergency room, infections diseases hospital
- The patients attending the different areas will mostly represent the community
- Medical college hospitals cover a good area of community health problems
- Attempt can be made to motivate students for meeting health needs of people
- For further attitudinal shift to serve people, field site training in 4th year and a short stay (1-2 weeks) during internship in Thana Health Complex will be of much help

BLOCK POSTING

Time	: Total six months	
Medicine	: 2 months (working days approximate 50 days)	
Break up	: Internal medicine	30 days
	Paediatrics	10 days
	Psychiatry	05 days
	Dermatology	05 days

WORKING HOURS

(08 hours per day)

- 09.00 a.m. – 05.00 p.m. with a break of half an hour between 1.00 – 1.30 p.m.
- 07.00 p.m. – 09.30 p.m.

Teaching / learning schedule: to be arranged locally

Summative assessment of Medicine
Assessment systems and mark distribution

Components	Marks	Total Marks
Formative assessment	10+10	20
WRITTEN EXAMINATION Paper – I- Internal Medicine MCQ SAQ Paper - II- Psychology, Dermatology, Paediatrics MCQ SAQ	20 70 20 70	180
Oral, Clinical & Practical <u>4 Examiners in 2 boards.</u> Board- I- 1 examiner from internal Medicine 1 examiner from Paediatrics Board-II- 1 examiner from Internal Medicine 1 examiner from sub. specialities (Dermatology/ Psychiatry) No temp. chart, slides, specimen in Practical Exam.		300
Grand Total		500

- There will be separate Answer Script for MCQ
- Pass marks 60 % in each of theoretical, oral and practical

SKIN & VD

COURSE OBJECTIVES:

At the end of the course students will be able to:

- grasp the importance of dermatology and venereology in modern medicine
- take appropriate history from the patients and perform relevant clinical examination
- diagnose and manage the most common skin and venereal diseases prevalent in Bangladesh

SKIN & VD

[illegible]

SKIN & Venereal Diseases
Clinical Attachment (WARD DUTY)
Total 72 hours : 24 hours in 3rd Year & 48 hours in 4th Year

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Knowledge Students will be able to: <ul style="list-style-type: none"> describe aetiology, clinical features, and management of common skin and venereal diseases be acquainted with universal precaution, syndromic management, counselling of STD/ AIDS Cases. Skill <ul style="list-style-type: none"> take appropriate history from the patients and perform clinical examination diagnose and manage common skin and venereal diseases will be able to demonstrate nerve thickening in leprosy. Demonstrate punch biopsy, electrocardiography, cryosurgery, PUVA procedures. 	<u>Dermatology</u> CORE: <ul style="list-style-type: none"> Cutaneous sign symptoms Scabies and pediculosis Impetigo Dermatitis (Eczema, seborrhic & exfoliative dermatitis) Fungal diseases of the skin <ul style="list-style-type: none"> Psoriasis Herpes simplex, Herpes zoster, wart, molluscum contagiosum Acne Vulgaris Bullous diseases (Pemphigus, Dermatitis herpetiformis) Leprosy 	Lecture Ward Teaching	OHP Chalk/Board Patient	<u>3rd Year</u> 4 hour 4 hour 4 hour 4 hour <u>4th Year</u> 4 hour 4 hour 4 hour 4 hour 4 hour	Written SAQ OSCE MCQ

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours/days	Assessment
Knowledge <ul style="list-style-type: none"> Students will be able to describe the clinical feature, management. 	<u>Additional:</u> <ul style="list-style-type: none"> Drug eruptions & Urticaria Lichen planus Skin tuberculosis Geno dermatoses(Icthyosis, Neurofibromatosis, etc.) Skin tumours 			<u>4th Year</u> 4 hour 4 hour 4 hour 4 hour 4 hour	
Skill <ul style="list-style-type: none"> Interpret result of patch test/ prick test / tuberculin test. 	<p style="text-align: center;">Venereology</p>				
Knowledge <ul style="list-style-type: none"> Be acquainted with syndromic management/ universal precaution, counselling on STD/ AIDS 	<u>CORE</u> <ul style="list-style-type: none"> Gonorrhoea Syphilis Chancroid Nonspecific Urethritis AIDS 			<u>3rd Year</u> 4 hour <u>4th Year</u> 4 hour 4 hour 4 hour 4 hour 4 hour	
Skill <ul style="list-style-type: none"> Perform gram staining/ bubo aspiration Be able to request & interpret tests like VDRL/ TPHA/ ELISA/ Western blot/ CFT for clamydia. 					

TIME SCHEDULE

<i>Annex-</i>		FIRST PROF.		<u>SKIN & VD</u>		SECON D		FINAL PROF.	
6m	6m	6m	6m	6m	6m	6m	6m	6m	6m
				LECTURE					
			5 hours				10 hours		
			<ul style="list-style-type: none"> • Scabies & pediculis • Eczema • Superficial fungal infections • Urethritis • Urticaria and drug eruption 				<ul style="list-style-type: none"> • Psoriasis • Acne vulgaris • Tuberculosis • Leprosy • Viral skin diseases • Pigmentary disease/ Arsenic poisoning • Bullous diseases • Syphilis • Chancroid & genital ulcer • AIDS 		
			1 week / batch		2 weeks/batch	Clinical (Ward)			1 week skin OPD
0	Yr1			Yr2		Yr3		Yr4	Yr5

Annex-

TIME SCHEDULE
MEDICINE LECTURE

Time: Each institute will arranged time schedule.

Days:

Discipline	3 rd Year	4 th Year	5 th Year
Medicine	24 hours	43 hours	90 hours
Paediatrics	04 hours	21 hours	25 hours
Psychiatry	10 hours	10 hours	
Skin & VD	05 hours	10 hours	
	Weekly once	4 th & 5 th Year combined	05 hours
		4 th & 5 th Year separate: 4 th Year – 5 th Year -	02 hours 04 hours

Tutorial: Time 02 hours

Last 2 months (1 month prior to examination)

N.B: Splitting of lectures in 4th & 5th year will be feasible if space, teachers are made available.

WARD DUTY

Time: 09.00 – 11.00 a.m. & 07.00 – 09.00 p.m. (04 hours)

Subject (Weeks)

Day: 5 days/ Week

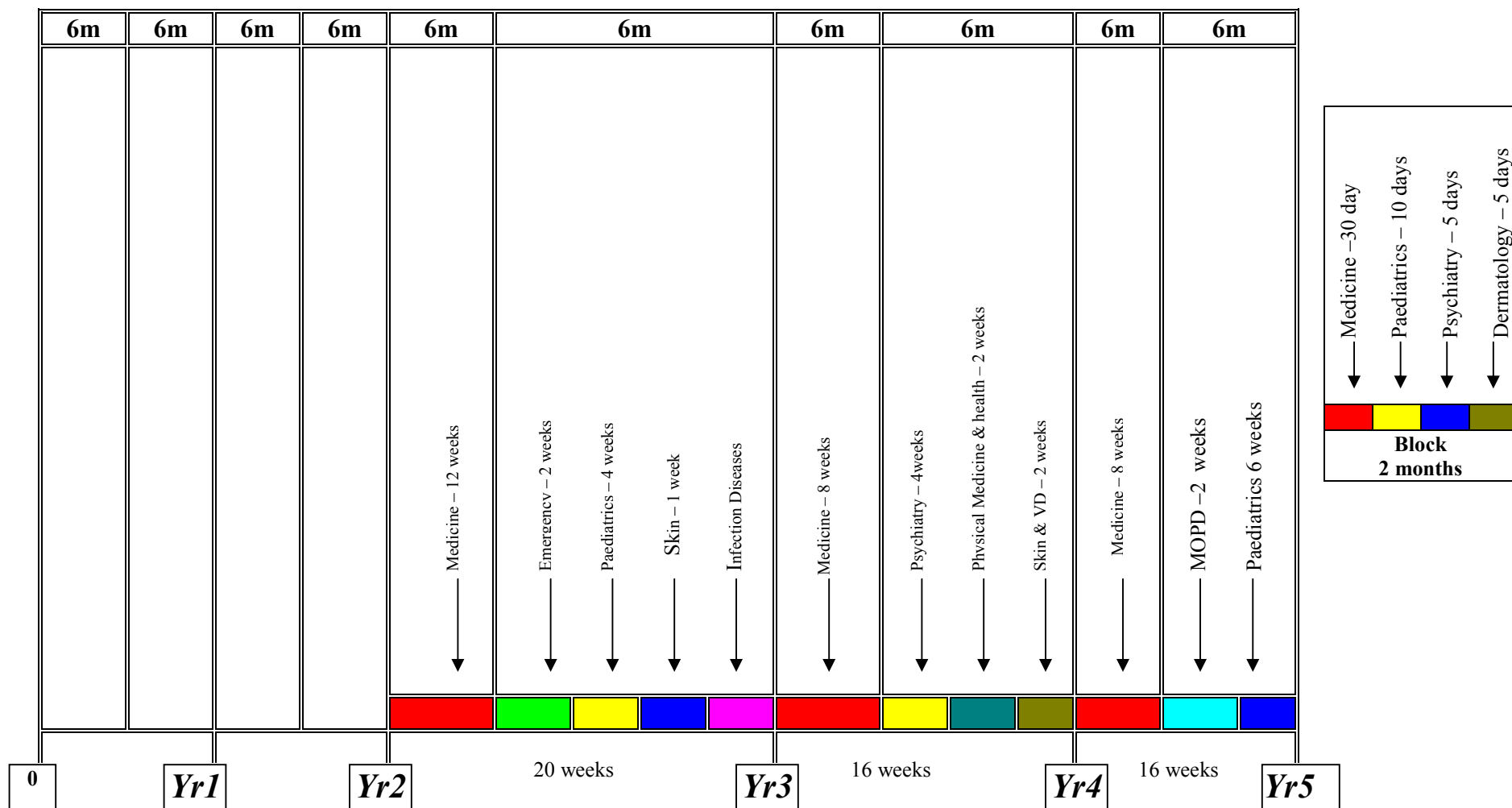
Year	Total Weeks	Medicine	Emergency	Paediatrics	Psychiatry	Skin/ infectious diseases
3 rd	20	12	02	04		01 Skin & VD 01 infectious disease
4 th	16	8	Physical Medicine & Rehabilitation 02		04	02 Skin & VD
5 th	16	8+OPD 2 =10		06		
	52	(52×6×4)= 1248 hours				

Note : Teachers for supervising the evening duties must be made available.

Annex-

SECO
ND

**FINAL
PROF.**



Integrated Teaching Skin VD

Topic	Learning Objective	Teaching Aids	Assessment	Department
Leprosy	Student should be able to: <ul style="list-style-type: none"> Describe epidemiology, aetiology, investigations clinical feature and management. Demonstrate partial nerve thickening/Anaesthesia Request and interpret investigations like tine smear for AFB BMI index. 			Skin VD Community Medicine Microbiology Leprosy Hospital
AIDS	<ul style="list-style-type: none"> Describe epidemiology/ aetiology/ investigations/ CF / management Request investigation like ELISA/Western Blot. 			Skin VD Medicine Virology (Pathology) Community Medicine
Arsenic Poisoning	<ul style="list-style-type: none"> Describe the epidemiology, investigation clinical features and management 			Skin VD Medicine

Integrated Teaching

Topic	Learning Objective	Teaching Aids	Assessment	Department
Cancer	Student should be able to: <ul style="list-style-type: none"> Identify common cancers in Bangladesh Propose way for early diagnosis of cancers Tell the treatment modalities of cancer Narrate ways of prevention of Cancer State staging of cancer 	OHP Blackboard Photograph Slides	Oral SEQ OSCE X-ray	Radiotherapy Surgery Medicine Pharmacology
Medical Ethics	<ul style="list-style-type: none"> Describe the principles of medical ethics Tell the code of conduct Take as informed consent Tell about doctor patient relationship 	OHP Blackboard	Oral SEQ	Medicine Forensic Medicine
Acid-base and Electrolyte balance/ imbalance	<ul style="list-style-type: none"> Describe the factors Maintaining normal acid base balance Causing Acidosis Causing Alkalosis Causing Dialysis Causing Hyper/ Hypokalaemia 	OHP Blackboard	Oral SEQ Lab. Dose	Medicine Physiology Nephrology
Diabetes mellitus (DM)	<ul style="list-style-type: none"> Diagnose DM Tell dietary management of DM Manage DM with insulin & oral hypoglycaemic agents Assess the complications of DM 	OHP Slides Sample of insulin and Syringe	SEQ OSCE	Medicine Surgery Gynae Pharmacology
Tuberculosis (TB)	<ul style="list-style-type: none"> Interpret tuberculin test, X-ray cases, sputum AFB Write prescription of a patient with pulmonary and extrapulmonary TB Identify complications of anti tubercular drugs National TB control strategy 	OHP Slide X-ray Wall chart	Write SEQ X-ray OSCE	Medicine Microbiology Pharmacology Radiology Community Medicine
Jaundice	<ul style="list-style-type: none"> Classify & differentiate jaundice clinically & by investigations Narrate complications of viral hepatitis Tell prevention of hepatitis 	OHP Slides Biochemical report	SEQ Oral Lab-dose Interpretation	Medicine Surgery Biochemistry Community Medicine

Annex -

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>The student will be able to:</p> <ul style="list-style-type: none"> • Tell the pattern of patients attending OPD Compared with in-patient • Elicit history in OPD • Perform quick diagnosis in OPD- Short history - brief exam. • Perform Counselling • Provide Health education 	<p>MOPD</p> <ul style="list-style-type: none"> • Introduction to OPD, Patient profile in OPD • History taking in outpatient • Physical exam. in OPD • Demonstration of patients with common illness • Illness with community importance e.g. leprosy, malaria, TB. Follow-up clinical. 	OPD	Patient	2 hours	OSCE Oral Card
<p>The student will be able to:</p> <ul style="list-style-type: none"> ❑ diagnose infectious disease by taking history, examination and investigation whenever possible: ❑ manage common infectious disease ❑ narrate ways for prevention of infectious diseases 	<p>Infectious Diseases</p> <p>Approach to common infectious diseases in Bangladesh</p> <ul style="list-style-type: none"> ❑ Tetanus ❑ Cholera ❑ HIV ❑ Rabies ❑ Emerging illness ❑ TB ❑ Leprosy 	ID Hospital	Patient	1 hour	Oral Card

Annex -

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>The student will be able to:</p> <ul style="list-style-type: none"> Define the clinical reasoning and therapeutic measures <p>Skill</p> <ul style="list-style-type: none"> Interpretation of investigations Skill development Emergency management Correlation between preclinical, paraclinical & clinical knowledge from practical point of view. 	<p>Block Posting before Final Examination</p>	<p>Ward</p>	<p>Patient Laboratory X-ray Instrument Procedures Treatments Follow-up Tutorials Self learning</p>	<p>2 hours</p>	<p>Oral Long case Presentation</p> <p>Short case OSCE</p>

PSYCHIATRY

COURSE OBJECTIVES

After completion of the course a medical student will be able to:

- Comprehend the concept of mental health care and be aware of the role of the medical doctor in detecting common mental disorder in the community
- Provide appropriate management to patients in the community
- Comprehend the historical concept of psychiatry and its gradual development.
- Comprehend normal and abnormal human behaviour in terms of personality, memory, intelligence, and learning.
- Classify psychiatric disorders, recognise clinical manifestation of common psychiatric syndrome during clinical assessment and plan their appropriate management.
- Deal psychiatric emergencies in hospital and community.

PSYCHIATRY

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to :</p> <ul style="list-style-type: none"> describe the historical concepts related to psychiatry describe psychosocial aspects of patients in medical settings explain the basic concepts related to learning, memory, personality, and intelligence classify common psychiatric disorders prevalent in Bangladesh describe the aspects of mental health care to patients at the community level including drug abuse 	<p>CORE :</p> <ul style="list-style-type: none"> Historical concepts & classification Behavioural Science Learning, memory, personality, intelligence Mental state exam Dementia Drug Abuse Childhood psychiatry 	Lecture		<p>3rd Year (10 hours) 1 hour</p> <p>1 hour 2 hours</p> <p>1 hour 2 hours 2 hours 1 hour</p>	
<p>Students will be able to :</p> <ul style="list-style-type: none"> classify common psychiatric, neurological, behavioral, and psychosocial disorders prevalent in Bangladesh recognise clinical manifestation of common psychiatric syndrome during clinical assessment plan their appropriate management. provide care to the patients presenting with psychiatric emergencies in hospital give long term care to patients at the community level provide preventive mental health care especially to high risk groups 	<p>Clinical Placement:</p> <ul style="list-style-type: none"> Schizophrenia Depression Anxiety, phobia, obsession Psychiatric emergencies Psychosexual Disorders Psychopharmacology 	Lecture Ward Teaching		<p>4th Year & 5th Year (10 hours) 2 hours 2 hours 2 hours 2 hours 1 hour 1 hour</p>	

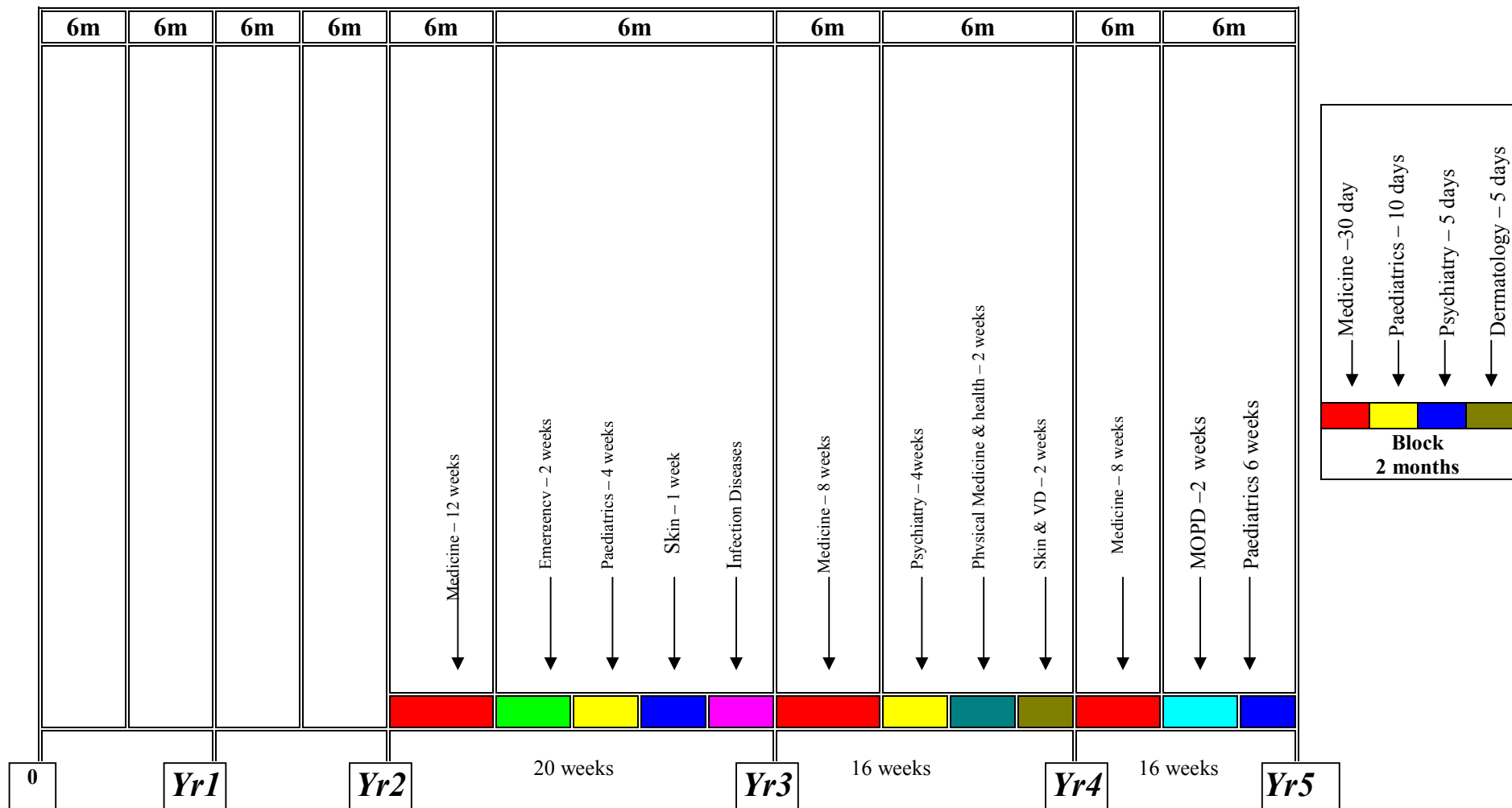
Clinical Attachment MEDICINE + PAEDIATRICS + SKIN & VD + PSYCHIATRY

Annex-

FIRST
PROF.

SECO
ND

FINAL
PROF.



Paediatrics

Departmental Objective:

To develop trained medical graduates who will be able to manage common childhood problems in the community. Hence, at the end of the course they will be able to:

- Manage common paediatric and neonatal problems at the community level.
- Manage acute neonatal and paediatric emergencies efficiently
- Identify neonatal and paediatric problems that require secondary and tertiary care and refer them appropriately.
- Use the growth chart in order to assess the growth and development of a child to differentiate normal from abnormal.
- Provide emergency cardiopulmonary resuscitation to new-borns and children
- Select and interpret relevant investigations
- Perform routine investigation and therapeutic procedures
- Communicate effectively with the child, parents, relatives and colleagues.
- Counsel, explain and guide parents and relatives regarding the illness, the management plan, the possible complications and the prognosis
- Refer appropriately for rehabilitation where necessary
- Promote support and facilitate PHC + ESP activities
- Participate in the national programmes providing both service and training and preventive activities: ARI, CDD, BFF, BINP, IDD, IMCI, EPI and other programmes
- Serve the community during disaster and epidemics
- Continue their personal education to keep abreast of the changing situation in child health
- Update latest information related to core problems
- Conduct Research
- Discharge medico-legal and ethical responsibilities
- Motivate parents to consent for a diagnostic autopsy

Paediatrics

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Preventive Paediatrics Students will be able to: <ul style="list-style-type: none"> Define Paediatrics and PHC State content of PHC + ESP Describe the current status and disease profile of children of this country. Describe the IMCI (Integrated Management of Childhood Illness), EPI, IDD, BINP, BFF & other preventive programmes. 	CORE: <ul style="list-style-type: none"> An introduction to Paediatrics and Primary Health Care EPI, IDD, BINP and other national preventive programmes. 	Lecture Large Group	OHP EPR	4 hrs.	Written MCQ=30% SAQ=70%
Neonatalology <ul style="list-style-type: none"> Describe the procedure for taking care of new-born e.g. Maintenance of body temp, feeding, care of eye etc. Define prenatal asphyxia, describe AP GAR Score, causes & management & complication of perinatal asphyxia. Describe the common causes of respiratory distress in newborn (RDS & meconium aspirates) & clinical presentation & management. Define preterm & low birth weight, epidemiology, causes, clinical presentation, problem, complication & management of preterm low birth with babies. Describe the common infections, causes, clinical presentation, management of prevention of New born infants. Describe the causes of neonatal jaundice, clinical presentation & management of different types of N. Jaundice. Counsel the parents about the disease & complications & programs. Enumerate the causes of neonatal seizures, management & complications. Counsel the parents about the disease & progresses. 	CORE: <ul style="list-style-type: none"> Care of a newborn Perinatal asphyxia Respiratory distress in newborn Pre-term/ Low birth weight Neonatal infection Neonatal jaundice Neonatal seizure 	Lecture Large Group	OHP Video	5 hrs.	Written MCQ=30% SAQ=70%

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Infant Feeding <ul style="list-style-type: none"> Describe advantages of breast feeding & disadvantages of artificial feeding Describe the effective breast feeding; colostrum feeding, exclusive breast feeding Describe the need of artificial feeding in special cases. Describe how to prepare & introduce AF Describe the meaning of, when to, how to prepare , type of food. 	CORE: <ul style="list-style-type: none"> Breast feeding Artificial feeding, supplementing and weaning 	Lecture Large Group	OHP Video Slide	2 hours	Written MCQ=30% SAQ=70%
Growth and Development <ul style="list-style-type: none"> Define growth & development Describe normal growth of a child Describe difference between normal & abnormal Describe growth chart Describe management of failure to thrive Counselling the parent to the management of failure to thrive. 	CORE: <ul style="list-style-type: none"> Growth and development Failure to thrive 	Lecture Large Group	OHP	2 hrs.	Written MCQ=30% SAQ=70%
Nutritional Disorders <ul style="list-style-type: none"> Describe the classification PEM Describe the clinical presentation, complication & management, and presentation of PEM Describe the various types of vitamin deficiency & write prescription & management. Describe the importance of micro nutrients & there need in PEM cases. 	CORE: <ul style="list-style-type: none"> PEM (kwashiorkor, Marasmus, Marasmic-Kwashiorkor) Vitamin deficiencies (Xerophthalmia, Rickets, Scurvy) Micro nutrient deficiencies (Zinc, Iodine), Mg, K, ⁺ Iron 	Large Group Lecture	OHP Slide	3 hrs.	Written MCQ=30% SAQ=70%

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Infectious Diseases</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Describe common infectious diseases of Bangladesh, with epidemiology, clinical presentation, complication, prevention & treatment. 	<p>CORE:</p> <ul style="list-style-type: none"> Measles Tetanus Diphtheria Pertussis Mumps Poliomyelitis Tuberculosis <i>Enteric fever</i> 	Lecture Large Group	OHP Slide X-ray	5 hrs.	Written MCQ=30% SAQ=70%
<p>Tropical Paediatrics</p> <ul style="list-style-type: none"> Describe CDD program in Bangladesh Describe definition, epidemiology, classification and pathology of diarrhoeal disorder. Describe the clinical presentation like assessment of dehydration & management (plan A, B+C) referral Describe importance & components of ORS, Cholera Saline. Describe complications & prevention of diarrhoea Describe the common infection in children with their clinical presentation, complication, treatment & prevention. Describe the epidemiology, aetopathology, clinical presentation, complication and management of Kalazar & malaria. Describe national programme for irradiation of malaria 	<p>CORE:</p> <ul style="list-style-type: none"> Diarrhoeal disorders and CDD programme Helminthiasis Malaria Kala-azar 	Lecture Large Group	OHP Slide Video	6 hrs.	Written MCQ=30% SAQ=70%

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Endocrine and Chromosomal Disorders</i></p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Describe the causes of short stature Describe the aetiopathology, clinical presentation, diagnosis & management of hypothyroidism and hypopituitarism Classify Diabetes mellitus & describe the clinical presentation, diagnosis & management of type I (IDDM) Diabetes Mellitus. Describe the causes, clinical presentation, management of Hypo & hyperalaeism . Describe common chromosomal disorders & clinical presentation & management & prognosis of down syndrome & turner syndrome. Counselling of parents about the prognosis of the diseases. <p>Musculo-Skeletal Disorders</p> <ul style="list-style-type: none"> Classify JRA, describe C/F, investigation, management & rehabilitation. Counsel the parents & patient. Classify Myopathy & describe the clinical feature, investigation & management of pseudo hyper trophic muscular dystrophy) Counselling & rehabilitation of myopathy. <p>Accidental Poisoning</p> <ul style="list-style-type: none"> Describe clinical presentation, management of kerosene, insecticide & drugs toxically/poisoning Describe clinical presentation & management of snakebite. 	<p><u>CORE:</u></p> <ul style="list-style-type: none"> Short stature (Hypothyroidism & Hypopituitarism) <p><u>Additional:</u></p> <ul style="list-style-type: none"> Diabetes Mellitus Hypo and Hyper Adrenalism Downs syndrome, Turner's syndrome <p><u>CORE:</u></p> <ul style="list-style-type: none"> Juvenile Rheumatoid Arthritis <p><u>Additional:</u></p> <p>Myopathy & Pseudo hyper</p>	Lecture	OHP Slide	1 hr.	
		Lecture	OHP Slide	1 hr.	
	<ul style="list-style-type: none"> Kerosene, Insecticide, Drugs Snake bite 	Lecture	OHP Slide	1 hr.	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Paediatric Psychological and Psychiatric disorders</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> Describe common Psychological & Psychiatric disorder of children Causes & management of Enuresis Describe common behavioural disorder & management & counselling Describe causes & management of Autism Describe the underlying causes of HCR & Juvenile delinquency & management. Counsel the patients & parents about the disease. <p>Rational Use of Drugs in Children</p> <ul style="list-style-type: none"> Tell the name of common antibiotics, anticonvulsant, Steroid, bronchodilators. Describe the dose, use & side effects the above drugs. 	<p>CORE:</p> <ul style="list-style-type: none"> Enuresis and behavioural disorders <p>Additional:</p> <ul style="list-style-type: none"> Autism, HCR, Juvenile delinquency Child Abuse <p>CORE:</p> <ul style="list-style-type: none"> Antibiotics, anti convulsants, Steroids and bronchodilators 	Lecture	OHP Slide	1 hr.	
		Lecture	OHP Slide	1 hr.	

Paediatric skills for undergraduates

Students must acquire skills to manage common paediatric problems. Hence, on completion of the course they must be able to:

- Obtain relevant history, and perform clinical examination to arrive at a provisional diagnosis.
- Suggest appropriate investigations keeping in mind their relevance and cost effectiveness.
- Plan and institute a line of treatment which is need based and cost effective.
- Recognise situations which will call for urgent treatment at secondary and tertiary level hospitals and make a prompt referral after giving first aid or emergency treatment with a proper referral note.
- Demonstrate empathy and human approach towards patients, relatives and attendants.
- Develop a proper attitude towards colleagues and other staff.
- Perform the anthropometric measurement of a child.
- Use the growth chart in order to assess the growth and development of a child and to differentiate normal from abnormal.
- Use and interpret the ARI & Diarrhoea Chart prepared by WHO.
- Prepare and administer ORT.
- Prepare balanced diet for malnourished child.
- Give intradermal /SC/ IM/ PR injections in children
- Vaccinate children.
- Interpret mantoux and BCG test.
- Introduce and fix nasogastric tube.
- Manage hyperpyrexia/ hypothermia and convulsion.
- Use autoscope, rectal thermometer, tongue depressor on children.
- Write a proper discharge summary with all relevant information.
- Help mothers in appropriate positioning and attachment in breast feeding

Students must have observed performance of the following skills/ Additional Skills:

- Cardio-pulmonary resuscitation (CPR) and first aid to children and neonates including endotracheal intubation
- Lumbar puncture
- Bone marrow aspiration
- Thoracocentesis/ paracentesis
- Exchange transfusion
- Venesection, I.V line
- Umbilical catheterisation
- Use of Ambubag
- Mouth to mouth breathing
- Administration of an enema
- Phototherapy
- Incubator care/ Baby therm function
- Hand /forearm washing

Paediatrics

Teaching/ Learning Methods & Aids

Methods	Aids
Lecture: Small Group teaching: (Clinical) Bed side teaching Case demonstration Practical Skills (Video) Field Site training: (with Community Medicine) Integrated Teaching Self learning	OHP, Video, Slide Patients Chart (ARI, Diarrhea) Growth chart, IMCI Chart, Module, Instrument, Weight Scale Teacher in the team Slide, OHP, X-ray, Patient Study guide, Books, Journals

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Assessment</i>	<i>Department</i>
Diarrhoeal disease	Students will be able to: <ul style="list-style-type: none"> • Describe epidemiology of diarrhea • Interpret & use The WHO chart • Identify different types of dehydration. • Manage different type of dehydration according to chart • Prepare ORS • Counsel the mother for fluid, food & referral knowledge. 	Chart OHP Video Slide Practical demonstration	OSCE	Paediatrics & Community Medicine & Medicine
Nutritional disease, growth & development	<ul style="list-style-type: none"> • Describe the nutritional status of children in Bangladesh • Describe the national programme for prevention e.g., IDD, BINP etc. • Describe the national growth chart • Plot the wt. of the baby on the growth chart • Identify, diagnose maramus, Kwashiorkor, Rickets, Scurvy, Vit A deficiency. 	OHP, Practical demonstration, Slide, Chart	OSCE	Paediatrics, Community Medicine Eye, Radiology
ARI disease	<ul style="list-style-type: none"> • Describe the epidemiology of ARI in Bangladesh • Interpret the ARI chart, (WHO) • Diagnose different type of ARI cases according to WHO • Manage different types of ARI according to the chart • Counsel the mother about (fluid, food & referral knowledge) home management. 	OHP Chart Video Slide Practical demonstration	OSCE	Paediatrics, Community Medicine Radiology

Integrated Teaching (Contd....)

Topic	Learning Objective	Teaching Aids	Assessment	Department
Tuberculosis	<ul style="list-style-type: none"> Describe epidemiology of tuberculosis in Bangladesh Describe clinical feature of tuberculosis at different sites. Describe investigation for diagnosis of T.B. in the community & hospital Interpret M.T/ BCG Test. Manage tuberculosis patient Counsel patient & patents Understand the on-going national programme for control of tuberculosis. 	OHP Care demonstration Slide X-ray	OSCE	Paediatric Medicine Community Medicine Radiology
Breast feeding	<ul style="list-style-type: none"> Describe the advantages of Breast Feeding Perform positioning of mother & attachment of the baby on mother's breast. Counsel the mother for Breast feeding. 	Video OHP Practical demonstration	OSCE	Paediatrics Obs & Gynae Community Medicine
Low birth Weight	<ul style="list-style-type: none"> Describe epidemiological status of L.B.W Identify L.B.W baby by weighting Take proper history to paediatric course Manage the L.B.W properly to avoid the complication Provide the appropriate nutritional advice (N.G tube/ Parenteral) 	Small group discussion Clinical Seminar Video OHP	Viva & Practical (OSCE)	Paediatrics Obs & Gynae
Birth Asphyxia	<ul style="list-style-type: none"> Identify birth Asphxia cases by observation Describe and assist in resuscitation e.g. clearing airway, O₂ inhalation, use of Ambu bag, warming of baby 	Model Video OHP Presence during delivery	Viva Practical model	Paediatrics Obs & Gynae.

Consolidated Teaching Hours

	3 rd Year		4 th Year	5 th Year	Total
Lecture	4 hours		21 hours	25 hours	50 hours
Clinical Ward	COPD	Neonatal ward		Indoor Placement	10 weeks
	2 weeks	2 weeks		Morning (2 hours) 6 Weeks Evening (2 hours)	
Integrated Teaching	Biweekly 2 hours, Monthly : 4 hours as clinical seminar				
Field Site Training	Along with community Medicine				

PROPOSED ACADEMIC CALENDAR –‘PAEDIATRICS’

LECTURE	3 RD YEAR			4 TH YEAR	5 TH YEAR		
	2 hours + 2 hours			20 hours + 1 hour	25 hours		
	INTRODUCTION PREVENTIVE PAEDIATRICS			Growth & development Feeding Nutritional disorder Infectious diseases Tropical paediatrics A.R.I.	Neonatology, Kidney diseases, Liver diseases, Cardio-vascular diseases, Haematological disorders, Central nervous diseases, Malignant diseases, Endocrine disorder, Chromosomal disorder, Musculo-skeletal disorder, Accidental poisoning Behavioural disorders.		
CLINICAL	4 weeks				6 weeks		
	2 WEEKS		2 WEEKS	No clinical placement in 4 th year	INDOOR PLACEMENT		
	Day	COPD	Neonatal Ward		Morning (2 hours)	Evening (2 hours)	
	1	Diarrhoea	Examination of new born		1 st Week D1- 2: Introduction + history taking D3- 5: ARI D6- : Presentation & discussion 2 nd Week D1- 3: Loose motion D4- 5: Fever, Leakaemia D6- : Presentation & discussion 3 rd Week D1- 3: PEM D4- 5: Hepatosplenomegaly D6- : Presentation & discussion 4 th Week D1- 3: Scanty urine, ARF, NS/AGN D4- 5: Accidental poisoning D6- : Presentation & discussion 5 th Week D1- 2: RF & RHD D3- 4: Joint swelling D5 : Bleeding disorder D6- : Presentation & discussion 6 th Week D1- 2: Convulsion D3- : TB D4- 5: OSCE D6- : Feedback	Self Learning Self Learning Self Learning	
	2		Feeding a new born				Self Learning Self Learning Self Learning
	3						
	4	ARI	LBW			Self Learning Self Learning Self Learning	
	5		LBW				
	6	EPI	Birth				Self Learning Self Learning Self Learning
	7	PEM/ Growth & Development	Neonatal Jaundice			Self Learning Self Learning Self Learning	
	8						
	9	Rheumatic fever & RHD	Neonatal Jaundice				Self Learning Self Learning Self Learning
	10						
	11	Breast feeding	N. convulsion			Self Learning Self Learning Self Learning	
12	Assessment	Assessment					

PLAN FOR ACADEMIC CALENDAR - PAEDIATRICS

Annex-

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 2px 10px;">FIRST PROF.</div> <div style="border: 1px solid black; padding: 2px 10px;">SECOND PROF</div> <div style="border: 1px solid black; padding: 2px 10px;">FINALPROF.</div> </div>									
6m	6m	6m	6m	6m	6m	6m	6m	6m	6m
			4 LECTURE		21 LECTURE		25 LECTURE		
			1. Introduction to Paediatrics –1 2. Primary Health Care –1 3. IMCI – 2 +ESP		1. Growth & development – 2 2. Infant feeding – 2 3. Nutritional disorder – 3 4. Infectious diseases – 5 5. Tropical Paediatrics with diseases – 6 6. Respiratory disorder - 3		1. Neonatology – 5 2. Haematological disorder – 3 3. Kidney – 3 4. Liver diseases – 2 hrs 5. CVS – 2 6. CNS disorder –3 7. Malignant disorders – 2 8. Endocrine & chromosomal disorders –1 9. Rational use of drugs – 1 10. Mascul skeletal disorder 1 11. Poisoning –1 12. Psychiatric disorders - 1		
			CLINICAL				CLINICAL		
			4 WEEKS				6 WEEKS		10 days for block teaching
0	Yr 1		Yr 2	3 rd	Yr 3	4 th	Yr 4	5 th	Yr 5

Paediatrics Assessment Card

Instructions to students

- You must complete the activities shown on the card during the clinical attachment on paediatrics.
- The teacher will sign the card when each item has been completed to a satisfactory standard.
- Teachers who can sign the card are those of registrar grade and above.
- At the end of the attachment the card must be presented to the Head of Department who will sign it an appropriate standard has been reached. The card will be retained by the Department.

Standard of performance expected

- When the activity involves interaction with patients and parents or the performance of a skill the teacher will expect to see and acceptable standard of performance in the following tasks.
 - introduction of oneself as a student
 - good communication with the patient/parent
 - explanation of what is to be done
 - permission obtained to go ahead
 - appropriate language used in history taking
 - the correct degree of examination
 - the correct degree of exposure during examination
 - in case of procedures,
 - correct use of instrument
 - correct procedure followed
 - demonstration of findings to the teacher
 - proper disposal of instrument used
 - communication with patient/parent during the procedure
 - communication with the patient/parent about the findings
- In all cases an ability to interpret the findings of the examination or procedure is expected.
- Activities in Paediatric Outdoor Clinic.
Where possible the student is expected to take an active part in the activities listed and not to have acted only as an observer.

At the end of the clinical attachment the card must be presented for final review and signature by Head of the Department if an appropriate standard has been reached.

	<u>Cases</u>	<u>Date</u>	<u>Supervisor</u>
A. History writing	(1) _____	_____	_____
	(2) _____	_____	_____
	(3) _____	_____	_____
	(4) _____	_____	_____
	(5) _____	_____	_____
B. Cases to be managed (10 cases)			
(1) Diarrhoea/severe dehydration	_____	_____	_____
(2) ARI severe pneumonia/pneumonia)	_____	_____	_____
(3) PEM/Marasmus/Kwashiorakor	_____	_____	_____
(4) Convulsion/Meningitis	_____	_____	_____
(5) AGN/NS/ARF	_____	_____	_____
(6) Lymphadenopathy	_____	_____	_____
(7) Anaemia/Leukaemia/Bleeding disorder	_____	_____	_____
(8) Fever/P.U.O.	_____	_____	_____
(9) Hepato splenomegaly	_____	_____	_____
(10) Rheumatic fever/RHD	_____	_____	_____
C. Events to be witnessed			
(1) Lumbar Puncture	_____	_____	_____
(2) Bone marrow	_____	_____	_____
(3) Intravenous line	_____	_____	_____
(4) Naso-gastric tube	_____	_____	_____
(5) Enema	_____	_____	_____
(6) Infant feeding (breast feeding)	_____	_____	_____
(7) Tepid sponging	_____	_____	_____
(8) BCG test/Mantoux test	_____	_____	_____
(9) Mouth to mouth breathing	_____	_____	_____
(10) Blood Transfusion	_____	_____	_____
(11) Collection of blood samples	_____	_____	_____
(12) Examination of ear/nose/throat	_____	_____	_____
(13) P.T.R	_____	_____	_____
(14) B.P.	_____	_____	_____
(15) Collection of throat swab	_____	_____	_____
(16) Collection of urine/stool	_____	_____	_____
(17) Aspiration of fluid-pleural/abdominal	_____	_____	_____
(18) CPR	_____	_____	_____
(19) Venesection	_____	_____	_____
	<u>Date</u>	<u>Supervisor</u>	

D. Practical works to be done			
(1) Pulse/Respiration	_____	_____	_____
(2) Temperature (Rectal/axillary)	_____	_____	_____
(3) Measurement of B. P.	_____	_____	_____
(4) Clinical examination of a system	_____	_____	_____
(5) Tepid sponging	_____	_____	_____
(6) Mouth to mouth breathing	_____	_____	_____
(7) Give ID/SC/IM/IV injection	_____	_____	_____
(8) Measure height & weight of the child	_____	_____	_____
(9) Measure OFC, MUAC	_____	_____	_____
(10) Throat Swab	_____	_____	_____
(11) E.N.T. examination using:			
• auriscope	_____	_____	_____
• tongue depressor	_____	_____	_____
• nasal speculum	_____	_____	_____
(12) Introduction of naso-gastric tube	_____	_____	_____
E. Paediatric Emergency			
(1) Childhood poisoning	_____	_____	_____
(2) Acute asthma	_____	_____	_____
(3) Heart failure	_____	_____	_____
F. Activities in C O P D			
(1) <u>ORT corner</u>			
i) Prepare ORS	_____	_____	_____
ii) Monitor ORT	_____	_____	_____
iii) Advising mother	_____	_____	_____
iv) Preparation of high energy density food	_____	_____	_____
(2) <u>Immunization clinic</u>			
i) EPI vaccination observed/practice OPV	_____	_____	_____
ii) Counselling witnessed/practice	_____	_____	_____
iii) Cold chain observed	_____	_____	_____
(3) Analysis of growth chart	_____	_____	_____
G. Activities in Neonatal Ward			
(1) <u>History writing of New Born</u>			
	<u>Cases</u>	<u>Date</u>	<u>Supervisor</u>
i)	_____	_____	_____
ii)	_____	_____	_____
(2) <u>Examination of New Born</u>			
i)	_____	_____	_____
ii)	_____	_____	_____

Paediatric Assessment Card

Medical College

(3) Cases to be observed

- i) Perinatal asphyxia
- ii) Low birth weight
- iii) Neonatal jaundice
- iv) Neonatal infection

- Pneumonia
- Septicaemia
- Umbilical infection
- Oral thrush
- Impetigo

Name of the Student:

(4) Events to be observed

- 1. Hand washing
- 2. Breast feeding
- 3. Use of Ambu bag
- 4. Mouth to mouth breathing
- 5. N.G. tube feeding
- 6. Phototherapy
- 7. Handling of baby therm
- 8. I. V. drip
- 9. L.P.
- 10. Exchange transfusion
- 11. Endotracheal intubation/CRP

Batch:

Roll:

Group:

Period of attachment:

(5) Care of umbilical stump

- i) Ligature of the cord
- ii) Care of the cord stump

Signature of the student

Signature of the Head of Depa

Surgery & allied Subjects

Departmental Objectives

The aim of this course is to provide community oriented & need based education so as to produce basic doctors who will be able to:

- Elicit a complete clinical history & physical findings and formulate diagnosis of common surgical problems prevalent in Bangladesh.
- Order necessary investigations & interpret the results
- Perform minor surgical procedures and treat minor surgical problems
- Recognize the major surgical problems needing specialised care, initiate the primary treatment and refer to the appropriate centres
- Diagnose and provide competent primary care in surgical emergencies.
- Carry out the responsibility of management in common casualties or natural calamities to offer and arrange basic life support.
- Take necessary preventive & prophylactic measures in surgical patients.
- Be involved in continued care & rehabilitation of surgical patients.
- Deliver health education in the community with emphasis on the preventive aspects of surgical disorders.
- Demonstrate the right attitude in
 - ❑ Patient Care
 - ❑ Community health care
 - ❑ Continuing medical education & research
 - ❑ Observing the moral & legal codes of medical ethics.

Surgery

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p align="center">General Surgery</p> <p>Student should be able to :</p> <ul style="list-style-type: none"> • Diagnose, treat and manage minor wounds, surgical infections, boil, abscess, carbuncle & gangrene. • Diagnose and give basic treatment for shock & haemorrhage. • Recognise all external hernias & their complications & initiate primary care for complicated hernias. • Recognise & differentiate different types of burns and initiate primary care & prevent complications. • Recognise fluid & electrolytes imbalance states, investigate & initiate appropriate therapy. • Recognise, & investigate different types of skin ulcerations. • Recognise, investigate & treat superficial skin tumour & cysts • Take appropriate measures to prevent tetanus, diagnose & refer established tetanus cases to specialised centre. 	<p><i>CORE</i></p> <p>Infection Wound Boil Abscess Carbuncle Sinus Fistula Ulcers Cysts Shock and Haemorrhage Blood Transfusion Burns and Scalds Fluid and electrolytes Enteral and Parenteral nutrition Skin grafting Tetanus and gas gangrene Tumours of skin Lymphadenopathy <div style="margin-left: 100px;">Lymphadenitis- nonspecific Specific(TB)</div> <div style="margin-left: 100px;">Lymphoma- Hodgkin's Nonhodgkin's</div></p> <p><i>ADDITIONAL</i></p> <p>Antibiotics and Antimicrobials Organ transplantation Pressure Sore</p>	<p>Lectures</p> <p>Tutorials</p> <p>Clinical demonstrations</p> <p>Attending & observing minor operations</p>	<p>Chalk & board</p> <p>OHP</p> <p>Slides</p> <p>Photographs</p> <p>Videos</p> <p>Fluid bags</p> <p>Blood bags,</p> <p>I.V sets & canula</p> <p>Transfusion sets</p> <p>Feeding tubes</p>	<p>15 hours</p> <p>5 hours</p>	<ul style="list-style-type: none"> • Written SEQ MCQ • Practical OSCE Short case • Oral

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Alimentary System</p> <p>Student should be able to :</p> <ul style="list-style-type: none"> Investigate and diagnose the common surgical diseases of alimentary system and suggest the principles of management Diagnose the acute conditions of alimentary system and initiate primary care Identify the patient requiring surgical intervention & refer to appropriate centre Take continued care of the operated patients Recognise post operative complications & take appropriate measures. 	<p>CORE</p> <p>Tongue, Lip: ulcer, cancer & other oral lesions Dysphagia - oesophagus & achalasia Peptic ulcer Carcinoma stomach Upper G.I. Tract bleeding Appendicitis Intestinal obstruction Neoplasm of colon Neoplasm of rectum and anal canal Intestinal tuberculosis Haemorrhoids, Fistula, Sinus & Fissure</p> <p>Colostomy & ileostomy Ruptured Spleen Ruptured liver Abdominal trauma Ruptured intestine</p> <p>ADDITIONAL Diseases of salivary glands Oesophageal stricture Hiatus hernia, reflux oesophagitis</p>	<p>Lectures</p> <p>Tutorials & Bed Side Clinical demonstrations</p> <p>Demonstrations of classical X-rays</p>	<p>Chalk & board, OHP</p> <p>Slides</p> <p>Photographs</p> <p>Video presentation</p> <p>Specimens</p> <p>Ryles tube</p> <p>Ostomy bags</p> <p>Plain X-ray abdomen & Contrast X-rays of Upper & lower GIT</p> <p>Ultrasonogram</p> <p>General Surgical instrument</p>	<p>15 hours</p> <p>5 hours</p>	<ul style="list-style-type: none"> Written SEQ MCQ Practical OSCE Short case Long case Oral

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Genito-Urinary System</i></p> <p>Student should be able to :</p> <ul style="list-style-type: none"> • Diagnose and manage acute genito-urinary condition like <ul style="list-style-type: none"> □ acute retention of urine □ phimosis □ paraphimosis □ epididymo-orchitis • Recognise common urological problems • Order necessary investigations & suggests principles of management • Catheterise patient with proper aseptic care • Introduce a suprapubic catheter • Perform circumcision • Evaluate a case of scrotal Swelling • Evaluate a case of haematuria 	<p>CORE</p> <p>Retention of urine</p> <p>Hydrocele (Adult)</p> <p>Orchitis, epididymitis & torsion</p> <p>Neoplasms of Testis</p> <p>Urolithiasis</p> <p>Hydro Nephrosis</p> <p>Pyo-Nephrosis</p> <p>Injury of kidney</p> <p>Haematuria</p> <p>Uraemia</p> <p>Anuria</p> <p>Peri Nephric abscess</p> <p>Neoplasms of kidney</p> <p>Cystitis</p> <p>Rupture urinary bladder</p> <p>Prostatic hyperplasia & neoplasm</p> <p>Stricture urethra</p> <p>Rupture urethra & urinary diversion</p>	<p>Lecture</p> <p>Tutorials</p> <p>Bed Side Clinical demonstration</p> <p>Demonstration of specimen, X-ray & models</p>	<p>Chalk & board, Slides, Photograph, Models</p> <p>Surgical Appliances</p> <p>Video</p> <p>I.V.U X-rays</p> <p>Ultrasono-Photography</p> <p>Renal Scans</p>	<p>20 hours</p>	<ul style="list-style-type: none"> • Written SEQ MCQ • Practical • OSCE Short Case Long Case • Oral

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Students will be able to:	<p><u>ADDITIONAL</u></p> <p>Tuberculosis of genito urinary system Bladder Neoplasm, Male sterility & Varicocele Overview of Modern management of stone diseases</p>			5 hours	
<p><i>Liver, Gall Bladder & Pancreas</i></p> <p>Student will be able to:</p> <ul style="list-style-type: none"> diagnose, investigate cholecystitis, cholelithiasis & pancreatitis; initiate primary case & suggest principles of management Investigate & interpret the results in a case of obstructive jaundice & suggest principles of treatment Diagnose & investigate suspected case of liver & subphrenic abscess & suggest appropriate treatment. 	<p><u>CORE</u></p> <p>Liver abscess Cholecystitis Cholelithiasis Obstructive jaundice Pancreatitis Sub-diaphragmatic abscess</p> <p><u>ADDITIONAL</u></p> <p>Cysts of liver Hepatic neoplasm Neoplasm of Gall Bladder Pancreatic tumours Portal hypertension</p>	<p>Lecture</p> <p>Tutorial</p> <p>Bed Side Clinical demonstration</p> <p>Specimen</p> <p>Video</p>	<p>Chalk & board, OHP Specimens,</p> <p>Appliances - 'T' tube X-rays - OCG, 'T' tube cholangiogram.</p> <p>USG-HBS & Pan-crease -photography</p>	<p>15 hours</p> <p>5 hours</p>	<ul style="list-style-type: none"> Written SEQ MCQ Practical OSCE Short case Long case Oral

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Cardio-vascular System</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> • Recognise chronic ischaemic conditions of limbs • Take appropriate preventive measures & refer to specialised centre. • Take appropriate measure to prevent DVT • Recognise early cases of DVT 	<p><u>CORE</u></p> <p>Vaso occlusive disorders Atherosclerosis, Buerger's disease Varicose vein Deep vein thrombosis Cardiac arrest & CPR</p> <p><u>ADDITIONAL</u></p> <p>Central venous pressure Angiography/ PTA Arterio venous fistula Heart lung machine Open heart surgery Closed heart surgery Pulmonary embolism</p>	<p>Lecture</p> <p>Clinical Demonstration</p> <p>Tutorial</p>	<p>Chalk & board OHP Photography Videos Slides Angio-graphic X-rays</p>	<p>3 hours</p> <p>2 hours</p>	<ul style="list-style-type: none"> • Written SEQ MCQ • Practical Short case Long case OSCE • Oral

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Neurological System</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> • Provide primary care of head injury & Spinal injury cases. • Prevent complications in neuro surgical patients. • Involve effectively in continued care & rehabilitation of neuro surgical cases. 	<p><u>CORE</u></p> <p>Head injury Spinal injury Pott's disease Prolapsed disc</p> <p><u>ADDITIONAL</u></p> <p>Hydro cephalus Tumours of brain Tumours of spinal cord</p>	<p>Lecture</p> <p>Tutorial</p> <p>Clinical demonstration</p> <p>OPD demonstration</p> <p>Video presentation</p>	<p>Board & Chalk OHP Slides</p> <p>Appliances e.g. Cervial collar.</p> <p>Skull X-rays.</p> <p>C.T. Scan of skull & brain</p>	<p>3 hours</p> <p>2 hours</p>	<ul style="list-style-type: none"> • Written SEQ MCQ • Practical OSCE • Oral
<p>Operative Surgery</p> <p>Student should be able to perform:</p> <ul style="list-style-type: none"> • Primary & delayed primary & Secondary suture closure of wounds • Circumcision • Vasectomy • Drainage of superficial Abscess • Venesection • Vaginal hydrocele operation • Asceptic catheterization & suprapubic bladder drainage. • Excision of superficial cysts & tumours. • Dressing of surgical wounds. 	<p><u>CORE</u></p> <p>Suturing materials Stitches Principles of Ascpsis & Antisepsis. Sterilization, Scrubbing O.T. environment & behavior. Pre-operative assessment & preparation Vasectomy Venesection Cricumcision Operation for hydrocele Repair of D.U perforation Wound care</p>	<p>Lecture Ward/OT Videos</p>	<p>Instrument & appliances</p>	<p>10 hours</p> <p>15 hours</p>	<p>Written-SEQ</p> <p>Oral</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student should be able to :</p> <ul style="list-style-type: none"> Assist common major operations & take post operative care 	<p>Operation for inguinal hernia Drainage of abscesses Removal of cyst-Dermal & Subcutaneous Catheterisation Supra-pubic cystostomy/ cystolithotomy Common Abdominal incisions Appendicectomy Basic principles of Laparoscopy.</p> <p>Additional Thyroidectomy, Nephrectomy, Mastectomy / Prostatectomy Gastrojejunostomy and Cholecystectomy</p>				
<p>Orthopaedics</p> <p>Student should be able to :</p> <ul style="list-style-type: none"> Manage simple & undisplaced fracture. Do reduction of fractures and external immobilization under general anaesthesia. Identify patients for referral to appropriate centres Develop skills in surgical toileting of open fractures Diagnose & outline management of <ul style="list-style-type: none"> Osteomyelitis Skeletal Tuberculosis Leprosy Classify tumours of bone 	<p>CORE Trauma : Fractures Clavicles Humerus (supracondylar fracture) Radius & ulna Neck and shaft of Femur Tibia & Tibula Dislocations Shoulder Jt. Hip Jt. Haemarthrosis Synovitis Injury to muscles Hand injuries</p> <p>Infection (BONE) Osteomyelitis Ac. Pyogenic Chr. Pyogenic. Arthritis (Septic, tubercular) Tuberculosis of Spine.</p>	<p>Lectures Sml group teaching in wards</p> <p>Demonstration in O.T., ward & OPD</p>	<p>Class room OHP Slide Video Presentation, View box</p> <p>Splints Instruments supporting aids- cricle brace, artificial limb</p>	<p>40 hours</p>	<ul style="list-style-type: none"> Written SEQ MCQ Viva, Practical OSCE Short case Long case

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<ul style="list-style-type: none"> Students should be able to understand the principles of management of bones & soft tissue tumours. <p>Students should be able to:</p> <ul style="list-style-type: none"> Recognise clinical conditions needing rehabilitation care Understand the basic principles of physiotherapy 	<p>Tumours (BONE)</p> <ul style="list-style-type: none"> Classification of bonetumour. Osteosarcoma- Principles of Management. <p>Soft tissue tumours</p> <p>Lipoma Fibroma Neuromas & fibrosarcomas Classification Diagnosis Prognosis Treatment. Basic Principles of Physiotherapy</p> <p><u>ADDITIONAL</u></p> <p>Leprosy, CDH. Clubfoot, Osteochondromas Secondary bone tumour.</p>	<p>Ward lecture Tutorial</p> <p>OPD, ward case Demonstration</p> <p>OPD Ward Demonstration lectures</p>	<p>Patient in OPD ward and O.T. lecture OHP X-rays Slides, Chalk & board</p>	<p>4 hrs.</p> <p>1 hrs</p> <p>2 hrs.</p> <p>5 hrs.</p>	

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student should be able to:</p> <ul style="list-style-type: none"> Describe conservative treatment of fractures of lower extremity by surface traction and skeletal traction Do reduction of common dislocations Understand general principal of management of fractures. 					

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Anaesthesiology</p> <p>Student should be able to :</p> <ul style="list-style-type: none"> be aware of the safety in Anaesthesia. be aware of the possible complications & management demonstrate basic knowledge of Acute resuscitation (CPR) describe the scope of Anaesthesia in rural environment. 	<p>CORE</p> <ul style="list-style-type: none"> Anaesthesia as a subject: its scope, outline- present & future. Anaesthesia Pharmacology: <ul style="list-style-type: none"> Drugs: induction, maintenance, muscle relaxants. Pre-operative intraoperative management Post-operative management complication General Anaesthesia (G.A) Management of Pain (chronic) Intensive Care Unit (ICU) Cardio-Pulmonary Resuscitation (CPR) 	Lecture Teaching Group in wards	OHP Video Slide Projector	10 hours	Written SEQ MCQ Practical Viva
<p>Practical Skills</p> <p>Student should be able to perform :</p> <ul style="list-style-type: none"> Pre-operative assessment Induction Intubation I/V line Artificial ventilation Post-operative room care 	<p>CORE</p> <p>Exposure to practical procedures :</p> <ul style="list-style-type: none"> Pre-operative assessment Induction Intubation I/V line Artificial ventilation Recovery room experience 	Demonstration in O.T. & ICU. Post operative ward.	I/V canula Anaesthesia machine Laryngoscope E.T tube Airway tube Umbo bag	12 hours	Observation Practical Card Completion Exam.

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Radio Diagnosis & Imaging</p> <p>Student should be able to :</p> <ul style="list-style-type: none"> Understand the principles of radiology and imaging Appreciate the importance of imaging as investigation & diagnosis of clinical conditions Understand the hazards of radiation Describe the protection measures for personal patient and the community. Write proper requisition for various x-rays & imaging. <p>Respiratory System</p> <p>Student should be able to :</p> <ul style="list-style-type: none"> Differentiate normal anatomical images from those due to pathological states, Diagnose the common conditions like tuberculous consolidation, pleural effusion, pneumothorax, lung abscess, collapse, bronchogenic carcinoma. Make radiological diagnosis of mediastinal masses 	<p><u>CORE</u></p> <ul style="list-style-type: none"> Introduction of radiology & imaging Hazards of radiation and protection for personal, patient and the population at large. Principles of ultra-sonography & its clinical application Plain & contrast X-Rays <p><u>CORE:</u></p> <ul style="list-style-type: none"> Normal and pathological image Tuberculous consolidation Pleural effusion Pneumo Thorax <p><u>Additional</u></p> <ul style="list-style-type: none"> Lung abscess Mediastinal mass CT & MRI 	<p>Lecture</p> <p>Tutorials</p> <p>X-ray demonstration</p> <p>Visit to radiology centre</p>	<p>Chalk & board</p> <p>OHP</p> <p>Slides</p> <p>X-ray plates</p> <p>View box</p>	<p>7 hours</p> <p>2 hours</p>	<p>Practical</p> <p>Oral</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p><i>Skeletal system</i></p> <p>Student should be able to :</p> <ul style="list-style-type: none"> • Diagnose common fractures, dislocations & bone tumours with the help of X-rays. <p><i>Excretory System</i></p> <p>Should be able to :</p> <ul style="list-style-type: none"> • Identify renal calculi in plain X-ray • Understand USG & IVU findings in renal stone and other renal diseases. 	<p><u>CORE</u></p> <ul style="list-style-type: none"> • Diagnosis of common fractures • including skull fractures • caries spine • osteomyelitis • common bone tumours • diseases to joints • dislocations <p><u>CORE</u></p> <ul style="list-style-type: none"> • Plain X-rays K.UB, USG & IVU in diagnosing the renal diseases. 	<p>Lectures</p> <p>Tutorials</p> <p>Ward teaching</p> <p>Demonstration</p>		<p>2 hours</p> <p>3 hours</p> <p>2 hours</p>	

Radiotherapy

Course Objectives:

At the end of the course of instruction the student will be able to :

- Appreciate the importance of radiotherapy, chemotherapy and nuclear medicine in the management of malignancy
- Identify clinical manifestations of common cancers of the country
- Adopt appropriate plan of clinical and laboratory methods for establishing a definitive diagnosis
- Demonstrate adequate knowledge of methods of cancer prevention and epidemiology
- Suggest option of therapeutic modalities of the common cancers of the country
- Establish early diagnosis on clinical evaluation and simple laboratory tests to facilitate prompt management and referral
- Provide appropriate management of common oncological emergencies
- Follow up the treated cases & recognise the recurrence & complications
- Provide palliative support and terminal care
- Assist in the planning and implementation of health programmes aimed at primary prevention

Radiotherapy

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> • Appreciate the role of radiotherapy in the management of cancer • Identify different sources of radiation • Refer the patients to radiotherapy department • Recognise common radiation hazards after primary care 	<p style="text-align: center;">Radiotherapy</p> <p>CORE <i>Introduction on Radiotherapy</i> Radiation oncology, basic principles and practices :</p> <ul style="list-style-type: none"> • Aims of radiation oncology • Curative • Palliative • Sources of radiation • Mode of action of ray & gamma-ray • Radiosensitivity, radioresistance, radiocurability and normal tissue tolerance. • Common radiation reactions and management. • Radiotherapy of some common cancer of the country e.g. oral. <p>Medical oncology, basic principles and practice :</p> <ul style="list-style-type: none"> • Cell cycle • Mechanism of action of cytotoxic drugs • Clinical aspect of cancer chemotherapy • Performance status • Nutritional status • Infection and bleeding tendency • Emotional status • Drug toxicity • Chemotherapy of certain cancer e.g. Leukaemia on Lymphoma • Childhood tumour 	<p>Lecture</p> <p>Tutorial</p> <p>Clinical demonstration</p> <p>Visit to radiotherapy & nuclear medicine centre</p>	<p>OHP</p> <p>Photography</p> <p>Slides</p> <p>Videos</p>	<p>4 hours</p> <p>3 hours</p>	<p>Written</p> <ul style="list-style-type: none"> - SEQ - MCQ <p>Practical</p> <ul style="list-style-type: none"> - Short cases - OSCE <p>Oral</p>

Radiotherapy

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students will be able to:</p> <ul style="list-style-type: none"> Appreciate the role of doctors in prevention of early diagnosis of cancer & referral of cancer patients. Take leadership in the community to offer rehabilitative support Offer follow up & terminal care of cancer patients. Recognise clinical condition as which could be diagnosed by radio-isotope & interpret the results. Recognise diseases requiring isotope therapy. 	<p>Prevention of common cancer :</p> <ul style="list-style-type: none"> Primary prevention Secondary prevention Early diagnosis Referral to appropriate centre <p>Palliative support and terminal care :</p> <ul style="list-style-type: none"> Oncologic emergencies Follow-up of cancer patients <p>Nuclear Medicine, basic Principles and practice :</p> <ul style="list-style-type: none"> Radio-isotope in diagnosis Radio-isotope in therapy 			<p>1 hour</p> <p>1 hour</p> <p>1 hour</p>	

Paediatric Surgery

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Students will be able to: <ul style="list-style-type: none"> identity common paediatric surgical problems including emergencies. initiate primary care refer the cases to appropriate hospital 	CORE <ul style="list-style-type: none"> Cleft lip Cleft palate Cystic hygroma Branchial fistula Congenital diaphragmatic hernias Congenital hypertrophic pyloric stenosis Neonatal intestinal obstruction Intussusception Imperforate Anus Hypospadias Epispaedias Phimosis/balanitis Paraphimosis Infantile Inguino scrotal swellings Mal descended Testis Torsion Testis 	Lecture Tutorials Bed side clinical demonstration Demonstration specimens Photographs X-rays and models	Chalk & board Slides Photographs Models Specimens Videos X-rays	8 hour	Written SEQ MCQ Practical Short case OSCE Oral.
	Additional <ul style="list-style-type: none"> Cutaneous haemangioma Exomphalos Child-hood tumours. Acute abdomen in infants & children Rectal bleeding and prolapse rectum 			1 hour	

SURGERY

Cl. Reg. No.	
Roll No.	
Group	
Batch	

Card No.	1 (One)
Year	3rd year
Total marks	100
Pass marks	50%

Name of the student						
Period of placement	From :		To :		Unit :	
Professor / Associate Professor						
Academic Co-ordinator						

No.	CLINICAL	Satisfactory/ Unsatisfactory	Marks	Signature
1.	History taking, general examination and general principle of examination (swelling, ulcer, sinus, fistula, etc.)			
2.	History writing & patient follow up : a) Examination of swelling b) Examination of ulcer, sinus, fistula c) Examination of Inguino-scrotal swelling d) Examination of extremities, vascular system			
3.	Examination of chronic abdominal condition : a) G.I. tract condition b) Hepato biliary & pancreatic condition			
4.	Examination of acute abdominal condition			
5.	Short cases in out patient clinics			

No.	PRACTICAL	Satisfactory/ Unsatisfactory	Signature
1.	5-infusions are to be observed & recorded		
2.	10 I.M. injections are to be given & recorded		
3.	Observe Ryles tube introduction in 5 cases		
4.	10 X-rays are to be seen & findings recorded		
5.	6 operations are to be attended & observed in OT & recorded.		
6.	Specimen- Gallstone, G. Bladder, Appendix, Urinary stones.		
7.	Instruments		
8.	Sterilization & scrubbing		
	TUTORIAL		
1.	Shock		
2.	Fluid electrolyte balance		
3.	Gangrene, Boil, abscess, carbuncle, ulcers		
4.	Sepsis and asepsis in surgery		
5.	Preoperative & postoperative care		

<u>OFFICIAL RECORD</u> <u>(To be completed by Department of Surgery)</u>			
Date of issue of Card			
Date of return of the Card			
Date of entry of the Result			
Date of issue of next Card		19	
Card No.		SU	
<div> Remarks and Countersignature of Academic Co-ordinator </div> <div> Dealing Assistant Department of Surgery </div>			

ORTHOPAEDIC & TRAUMATOLOGY

Cl. Reg. No.	
Roll No.	
Group	
Batch	

Card No.	2 (Two)
Year	4th year
Total marks	100
Pass marks	50%

Name of the student						
Period of placement	From :		To :		Unit :	
Professor / Associate Professor						
Academic Co-ordinator						

No.	CLINICAL	Satisfactory/ Unsatisfactory	Marks	Signature
1.	Examination of bones and joints			
2.	Examination of bone disorders and tumours			
3.	Examination of locomotor system including muscle, tendon & nerves			
4.	Examination of Fracture and dislocation			
5.	Examination and assessment of multiple injury patient			
6.	Examination of head injury patient			
7.	Neurological examination			

	PRACTICAL		
1.	ORTHOPAEDIC: a) 2 Operations to be assisted b) Splint, Bandage & technique of immobilization		
2.	CASUALTY : a) 3 Emergency cases to be received at Emergency Department & recorded b) 3 Minor wounds to be repaired & c) 2 Emergency operations are to be assisted		
3.	X-RAYS (10 X-rays to be seen & Findings recorded) SPECIMENS INSTRUMENTS		
	Tutorial		
1.	Fracture, complications		
2.	Dislocation		
3.	Bone tumours		

CARD COMPLETION EXAMINATION

Attendance		out of	
Total marks obtained in items		Percentage	
Marks obtained in card completion		Percentage	
Remarks			
<div>Professor of Surgery</div> <div>Registrar Surgical Unit</div>			

OFFICIAL RECORD

(To be completed by Department of Surgery)

Date of issue of Card			
Date of return of the Card			
Date of entry of the Result			
Date of issue of next Card		19	
Card No.		SU	

Remarks and Countersignature of
Academic Co-ordinator

Dealing Assistant
Department of Surgery

SURGERY

Cl. Reg. No.	
Roll No.	
Group	
Batch	

Card No.	3 (Three)
Year	5th year
Total marks	100
Pass marks	50%

Name of the student						
Period of placement	From :		To :		Unit :	
Professor / Associate Professor						
Academic Co-ordinator						

No.	CLINICAL	Satisfactory / Unsatisfactory Marks	Signature
1.	Examination of neck swellings		
2.	Examination of extremities for peripheral vascular conditions		
3.	Examination of Chronic abdominal condition		
4.	Examination of acute abdominal condition		
5.	Examination of Genito-Urinary system		
6.	Examination of face		
7.	Examination of oral cavity		
8.	Examination of breast & axillary lymphnode		
9.	Examination of anorectal condition		
10.	Short cases at Surgical Outdoor Patient Department		

	PRACTICAL		
1.	Five complete histories with clinical examination are to be taken & recorded		
2.	Three proctoscopic examination are to be done & recorded		
3.	Observe surgical dressings & stitch-usually in 3 cases.		
4.	Ten X-rays are to be seen and findings recorded		
5.	Three operations are to be assisted		
6.	Observe & introduce Plain Catheter in (3+2) cases		
7.	Specimen – Ca-Breast, Prostate, Sequestrum, Stomach, Thyroid, testis etc.		
8.	Instruments		
	TUTORIAL		
1.	Gastro-intestinal bleeding		
2.	Acute abdomen		
3.	Surgical jaundice		
4.	Chronic abdominal condition		
5.	Burn		
6.	Haematuria		
7.	Retention of urine		

CARD COMPLETION EXAMINATION

Attendance		out of	
Total marks obtained in items		Percentage	
Marks obtained in card completion		Percentage	
Remarks			

Professor of Surgery

**Registrar
Surgical Unit**

OFFICIAL RECORD (To be completed by Department of Surgery)			
Date of issue of Card			
Date of return of the Card			
Date of entry of the Result			
Date of issue of next Card		19	
Card No.		SU	

**Remarks and Countersignature of
Academic Co-ordinator**

**Dealing Assistant
Department of Surgery**

Ophthalmology

Departmental Objectives

The objective of this course is to provide community-oriented & need-based education so as to produce a good basic doctor who will be able to:

- Diagnose, treat and manage the common ocular ailments.
- Provide leadership in the sphere of Primary Eye Care.
- Diagnose, give initial management & refer ocular emergency cases appropriately.

To achieve the above mentioned departmental objectives, the following specific Learning Objectives will be required:

At the end of the course the students should be able to:

- Take an appropriate history
- Carry out examination of the Eye
- Diagnose & plan for the treatment of Sty, chalazion, Dacryocystitis, Conjunctivitis, Corneal ulcer, Iritis, Glaucoma, Cataract, Ratinotoblastoma, Ocular injury, Vit-A deficiency (ocular manifestations), Refractive errors and orbital diseases.

Use the following instruments:

- ☐ Tonometer (Schioetz)
- ☐ Snellen's chart for visual acuity.
- ☐ Trial box
- ☐ Direct Ophthalmoscope, Perimeter.

Perform:

- ☐ Fl. dye test
- ☐ Sac patency test
- ☐ Field of vision test
- ☐ Retinal Function test: PL, PR, Pupillary reaction.
- ☐ Macular Function test
- ☐ Tonometry
- ☐ Direct Ophthalmoscopy

Perform minor surgery including:

- Epilation
- Irrigation of conjunctival Sac
- Eye bandage
- Removal of superficial corneal & conjunctival foreign body
- Drainage of lacrimal abscess.

Describe the steps of the following surgical procedures:

- Extra Capsular Cataract Extraction (E.C.C.E)
- Intra ocular lens Implantation.
- Trabeculectomy
- Dacryocystorhinostomy.
- Pterygium Surgery
- Enucleation & Evisceration
- Repair of Corneal injury & other ocular injuries.

Identify and explain:

- Surgical instruments.
- X-Rays – Para Nasal Sinuses, Orbit, Skull
- Specimens of Retinoblastoma, Anterior Staphyloma
- Common ocular Drugs.
- Suture materials

Ophthalmology

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Students should be able to: <ul style="list-style-type: none"> • Describe orbital contents • Describe extraocular muscles • Diagnose & manage orbital cellulitis & proptosis • Diagnose & manage Ptosis, Ectropion, Entropion, Sty, Trichiasis, Chalazion & injury • Diagnose & manage Acute Bacterial conjunctivitis, ophthalmia neonatorum, viral & allergic conjunctivitis & Trachoma. • Differentiate Epiphora Lacrimation • Diagnosis of Acute & Chronic Dacryocystitis • Diagnose, manage common complications of Corneal ulcer • Describe collection, preservation of cadaveric eye indications of Keratoplasty. • Describe the formation & circulation of Aqueous humour • Diagnose & manage of primary open & closed angle glaucoma 	CORE <ul style="list-style-type: none"> • Anatomy of the orbit • Orbital diseases • Anatomy & physiology of the lid • Diseases of the lid • Anatomy & physiology of the of the conjunctiva • Diseases of the conjunctiva • Anatomy & physiology of the lachrymal apparatus • Diseases of the lachrymal apparatus • Anatomy & physiology of the cornea • Diseases of the cornea • Factors maintaining IOP & classification of glaucoma • Primary narrow angle glaucoma • Primary open angle glaucoma 	Lecture Tutorial (clinical) Demonstration Case Presentation Video	OHP Slid Chalk & Board	3 hrs 3 hrs 3 hrs 2 hrs 6 hrs 4 hrs	

* School sight testing programme should be conducted during placement of students in community medicine field programme by Ophthalmology Dept.

Ophthalmology

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Students should be able to:</p> <ul style="list-style-type: none"> • Diagnose & manage of cataract • Diagnose & manage Uveitis • Make D/D of red eye • Describe the sources of vitamin A • Exciting factors • Diagnose keratomalacia & manage it. • Describe school sight testing programme • Diagnose & make referral other centre if necessary? • Diagnose and give initial management & referral service • Describe indication & toxicity of common ocular drugs • Make D/D of gradual Dimness of vision • Diagnose Retino blastoma • Diagnose hypertensive & diabetic retinopathy • Describe visual field defects & its implications. • Diagnose vitreous haemorrhage • Recent Advances in Ophthalmology 	<ul style="list-style-type: none"> • Anatomy & physiology of the lens • Diseases of the lens and cataract • Anatomy of the Iris, CB & Choroid • Inflammation of the Iris (Anterior Uveitis) & CB • Xerophtalmia • Principles of refraction, Refractive Errors. • Injuries of eye • Ophthalmic therapeutics <u>ADDITIONAL</u> <ul style="list-style-type: none"> • Diseases of the choroid (Post. Uveitis) • Diseases of the retina • Anatomy and physiology of the Visual Pathway • Diseases of the Visual Pathway • Anatomy & diseases of the Vitreous 	Lecture	OHP Slide/ Chalk & Board	<p>6 hrs.</p> <p>3 hrs.</p> <p>1 hrs.</p> <p>3 hrs.</p> <p>2 hrs.</p> <p>1 hrs. 2 hrs.</p> <p>2 hrs.</p> <p>2 hrs.</p> <p>1 hrs. 1 hrs.</p>	

Teaching Methodology

- Lecture
- Tutorial (Clinical Demonstration)
- Demonstration (O.T. etc.)
- Case presentation
- Video
- School sight testing

Teaching Hours

	Year 4	Year 5	Total
Lecture		40 hours	40 hours
Ward & OPD	2 Weeks (OPD)	4 weeks (Ward) 2 weeks OPD	8 weeks

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Department</i>
<ul style="list-style-type: none"> Iritis Retinoblastoma Loss of vision Proptosis 	<p>Describe signs/ symptoms & investigations of syphilis, T.B, Sarcoid & collagen disorders</p> <p>Describe histopathological types with indication of treatment</p> <p>Diagnose & treat cases of intra cranial tumour, head injury, meningitis, Diabetes C.V.A, demyelinating diseases.</p> <p>Diagnose & treat thyrotoxicosis, blood dyscrasia, Tumours of PNS.</p>	<p>Case demonstration</p> <p>Case demonstration</p> <p>Case demonstration</p> <p>Case demonstration</p>	<ul style="list-style-type: none"> Medicine Radiotherapy Pathology Medicine Neurology, Neurosurgery Medicine, Haematology, ENT, Neurosurgery, Radiology

CARD FOR EVALUATIONFirst clinical Card (4th year)

Total Marks = 100

Name of the student			
Roll No		Class	
Session		Batch	
Period of placement in Eye Outdoor 2 (Two) weeks			
From		To	

No.	Items	Day of teaching	Marks obtained	Teacher's Signature
1.	History taking	1 day		
2	Examination of the Eye: Adnexa, visual Acuity, Ant. Segment.	2 days		
3	Tonometry : Digital and Schiotz	1 day		
4	Methods of application of ocular drugs : Eye Bandage, removal of sup. Corneal F.B, Irrigation of conj. Sac.	1 day		
5	'RED EYES' - case demonstrations. Including fluorescein dye test	2 days		
6	Trial box; Snellen's Chart 5 cases	1 day		
7	Sac Patency Test and Epiphora 3 cases	1 day		
8	Assessment	1 day		
9	Total	10 days		

Total No. of attendance	
Marks obtained	
Comment	
Signature of the Registrar/RS	

Signature of Head of the Department

DEPARTMENT OF OPHTHALMOLOGY

CARD FOR EVALUATION

Second clinical Card (5th year)

Total Marks = 100

Name of the student			
Roll No		Class	
Session		Batch	
Period of placement in Eye Ward 6 (Six) weeks. (4 weeks ward + 2 weeks OPD = 6 weeks)			
From		To	

No.	Items	Day of teaching	Marks obtained	Teacher's Signature
1.	History & Exam (Colour vision, Field of vision) 5 cases	3 days		
2.	Corneal ulcer : Diagnosis and management. 3 cases	2 days		
3.	Uveitis : Diagnosis and management. 2 cases	2 days		
4.	Cataract diagnosis and management. 5 cases	3 days		
5.	OT, surgical demonstration DCR-2, ECCE with PCIOL-5	2 days		
6.	Glaucoma. 2 cases	3 days		
7.	Ocular Injury. 3 cases	2 days		
8.	Ophthalmoscopy/Tonometry	2 days		
9.	Dacryocystitis: Diagnosis & management. 4 cases	2 days		
10.	Xerophthalmia: Case demonstration & management 5 cases with paed. ward.	2 days		
11.	Assessment	2 days		
	Total	25 days		

Total No. of attendance	
Marks obtained	
Comment	
Signature of the Registrar/RS	

Signature of Head of the Department

Otorhinolaryngology & Head-Neck Surgery

Departmental Objectives

The aim is to train undergraduate medical students so as to produce need based community oriented doctors who will be capable of :

- **Diagnosing and managing common ENT & Head-Neck disorders.**
- **Referring complicated ENT and head-neck disorders to appropriate centres if and when necessary.**
- **Managing common emergencies in ENT & head-neck disease.**
- **Giving preventive advice on certain aspects of ENT & head-neck diseases.**

To achieve above mentioned departmental objectives the following learning objectives should be achieved:

- **Appropriate History taking**
- **ENT & Head-Neck examination procedure.**
- Describe the clinical application of basic anatomy & physiology of Ear, Nose and Throat
- Describe the pathology of common ENT disorders & disorders of the Head-Neck region
- Commonly used drugs and describe their adverse effects
- Use common investigative procedures and special investigation (CT, MRI, and sonography, etc)
- Use auroscope, nasal speculum, tongue depressor, laryngeal mirror, tuning fork and head mirror & other instruments as listed in the enclosure.
- Dress ENT wounds, nasal packing (anterior nasal pack) for epistaxis, dressing of ear.
- Perform Syringing of the ear.
- Learn how to do Tracheotomy.
- Manage post-operative cases like, tracheotomy, Adenotonsillectomy, Mastoidectomy, SMR operation & thyroid operation.

Otorhinolaryngology & Head-Neck Surgery

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours/days	Assessment
<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Understand the Anatomy of ear. 2. Understand the Physiology of ear. 3. Take History of ear diseases. 4. Do clinical hearing test and understand the significance of audiometry and caloric test. 5. Diagnose various ear diseases by clinical examination (FB, Otitis Externa, Traumatic Tympanic membrane perforation, ASOM, Otosclerosis. 6. Remove impacted wax, foreign body, Aural toileting 7. Diagnose ear diseases and Its complications and refer it to Appropriate hospital. e.g. - perichondritis otосclerosis extra and intracranial complications of middle ear diseases 8. Make D/D of earache 9. Differentiate safe from unsafe variety of CSOM. 	<p><u>EAR</u></p> <p>Core</p> <ol style="list-style-type: none"> 1. Anatomy of ear 2. Physiology of ear:- hearing, Balance 3. Congenital diseases of ear-Preauricular sinus. 4. Diseases of ext. ear-Furuncle, Otitis externa Otomycosis. 5. Diseases of middle ear-ASOM, CSOM, OME, Otosclerosis. 6. Diseases of internal Ear-Meniere's disease, Labyrinthitis. 7. Screening of Deaf child. 8. Tuning fork test, Audio metry, caloric test 9. Micro ear surgery-Myringotomy Myringoplasty & different types of mastoidectomies. 10. Neurootological complications: Lateral sinus thrombosis, general idea about intra cranial complications. <p><u>Additional:</u></p> <ol style="list-style-type: none"> 11. Vertigo 12. Tinnitus 13. Sensorineural deafness. 	<p>Lecture</p> <p>Tutorial</p> <p>Clinical Demonstration of patients.</p> <p>Slide</p> <p>Attend centres where investigations for hearing impairment, vertigo, Tinnitus available.</p>	<p>Patient Model</p> <p>Diagram</p> <p>Instruments</p> <p>Radiology</p> <p>CT Scan</p> <p>MRI</p>		<p>OSCE</p> <p>MCQ</p> <p>Short Questions</p>

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
Student will be able to : 1. Describe anatomy and physiology of nose. 2. Manage epistaxis 3. Remove FB and reduction of Fracture nasal bone. 4. Diagnose nasal diseases by clinical examinations 5. Refer the patient to specialized ENT centre 6. Apply ANS Pack.	<p style="text-align: center;"><u>NOSE</u></p> <p>CORE:</p> <ol style="list-style-type: none"> Anatomy of nose Physiology of nose Epistaxis. FB nose, Fracture nasal bone Nasal allergy Nasal polyp Rhinitis, Sinusitis DNS, septal perforation, septal abscess, septal haematoma Nasal papilloma, rhinosporidiosis. Atrophic rhinitis Nasopharyngeal angiofibroma. <p>Additional</p> <p>Headache Tumours of nose and PNS Common nasal and sinus Operation Polypectomy SMR Caldwell Luc operation BAWO</p>	Lecture Tutorial, Clinical demonstration of patient	Transparencie s Diagram Video Slide Radiology CT Scan MRI		OSCE MCQ Short Questions.

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
<p>Student will be able to :</p> <ol style="list-style-type: none"> 1. Describe anatomy of mouth, pharynx, larynx. 2. Describe Physiology of deglutition. 3. Make D/D of white patches, ulcers in oral cavity, Leukoplakia and Sorethroat. 4. Diagnosis Diphtheria and refer it to appropriate hospital 5. Diagnose Acute, Recurrent tonsillitis, Enlarged adenoids, Indications of Adenotonsillectomy and principles of post operative management. 6. Diagnose Complications of Adenotonsillectomy and its management 7. Know D/D of dysphagia. 8. Know D/D of hoarseness of Voice. 9. Know D/D of Stridor 10. Know Indications of tracheostomy & its steps, postoperative management. 	<p>Mouth cavity, pharynx, larynx and esophagus</p> <p style="text-align: center;"><u>Core</u></p> <ol style="list-style-type: none"> 1. Anatomy of mouth cavity, pharynx, larynx and Oesophagus 2. Physiology of deglutition and functions of larynx, pharynx. 3. Diseases of mouth cavity Congenital Hare lip, cleft palate White patch-oral cavity, ulceration, Leukoplakia, 4. Acute & recurrent tonsillitis faucial diphtheria. 5. Enlarged Adenoids 6. Tonsillectomy 7. Peritonsillar abscess, retro pharyngeal abscess, parapharyngeal abscess. 8. Ca nasopharynx. <p><i>Larynx</i></p> <p>Acute Epiglottitis, Acute Laryngo tracheo bronchitis Acute & chronic laryngitis Papillomalarynx Stridor Tracheostomy Carcinoma-larynx. Laryngeal diphtheria. Foreign Body larynx, trachea, bronchus.</p>	<p>Lecture, Tutorial, Clinical duties</p>	<p>Transparencies Diagram</p> <p>Video Patient Demonstration Radiology CT Scan MRI FOL Sialogram USG Scanning Sinogram</p>		<p>OSCE</p> <p>MCQ.</p> <p>Short Question</p>

Cond./4

Learning Objectives	Contents	Teaching / Learning strategy	Teaching Aids	Hours / days	Assessment
	<p style="text-align: center;"><u>Pharynx</u></p> <p>FB Malignancy of Pharynx</p> <p style="text-align: center;"><u>Oesophagus</u></p> <p>PV syndrome Dysphagia Foreign Body Benign & malignant lesion of Oesophagus (strictures, rupture)</p> <p style="text-align: center;"><u>Head-Neck</u></p> <p>1. Salivary gland diseases 2. Thyroid 3. Neck mass 4. Congenital sinus & cyst of head neck (Thyroglossal cyst, Branchial cyst, Branchial sinus)</p> <p><u>General Idea about head neck malignancies</u></p>	Case Demonstration			

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Assessment</i>	<i>Department</i>
<ul style="list-style-type: none"> Brain Abscess (Otogenic, Rhinogenic) 	<p>Student will be able to:</p> <p><i>State the courses of Brain abscess</i></p> <ul style="list-style-type: none"> Describe the symptoms & signs of the brain abscess. Examine the nervous system Investigate & interpret the results of investigation. State the treatment of brain abscess. 	<p>Video cassette film of C.T. Scan, X-ray, Diagram, Ophthalmoscope, Hammer, Cotton, Pin & Patients. Tongue depression, PWS mirror, Nasal speculum.</p>	<p>Performance, Interpretation, Short Question, Modified short Question, MCQ Practical Exam OSCE</p>	<p>ENT & Neuro Surgery</p>
<ul style="list-style-type: none"> Maxillary Growth-Involving Orbit 	<p>State common courses of unilateral maxillary swelling</p> <ul style="list-style-type: none"> State common cases of unilateral proptosis. State the common sites of extension of maxillary growth. Examine the common sites of extension of maxillary growth Examine the eye-vision, acuity & field State the principles of treatment of maxillary growth. 			<p>ENT & Eye</p>

Teaching Methodology

- **Lecture/ Mini Lecture**
- Tutorial/ Demonstration - Video
- Case presentation- Subject – Operation- Programme side Teaching Theatres
- Discussion
- Visit to RHC / Specialised Centre (If available)

Teaching Hours

	Total
Lectures 45 may be taken in 5 th year	45 hours
Ward Teaching	8 weeks

Appendix-3

CARD SYSTEM FOR WARD & OUTDOOR DUTIES

Clinical Card in Otorhinolaryngology & Head-Neck Surgery

(4 weeks in 4th year and 4 weeks in 5th year - Total marks = 100)

Name of the student			
Roll No		Class	
Session		Batch	
Period of placement in ENT Outdoor /Ward			
From		To	

4th - YEAR

No.	Item	Date of teaching & learning	Marks obtained	Signature of teacher
1.	History taking, examination & investigations of ear diseases			
2.	History taking, examination & investigations of diseases of nose & Paranasal Sinuses.			
3.	History taking, examination and investigation of diseases of pharynx, larynx & Oesophagus			
4.	Examination of Head-Neck & differential diagnosis of neck swellings.			
5.	See 10 cases of discharging ears and establish diagnosis			
6.	See 10 cases of deafness and establish diagnosis			
7.	See 10 cases of nasal obstruction & establish diagnosis. Learn all about septal deviation			
8.	See 5 cases of nose bleeding and learn nasal packing			
9.	See 5 cases of wax in ears and learn toileting			
10.	See 10 cases of neck swellings and establish diagnosis			

Note: At the end of these items an evaluation of students will be made 12.5% of the Practical, Clinical and Oral marks may be credited for this.

5th - Year

No.	Items	Date of teaching & learning	Marks obtained	Signature of teacher
1.	See 5 cases of Recurrent tonsillitis tonsillectomy, also learn pre & postoperative management.			
2.	See cases of Peritonsillar abscess/ retropharyngeal abscess. Establish diagnosis. Learn principles of management			
3.	See 10 cases of hoarseness of voice. Establish diagnosis & learn principles of treatment			
4.	See instruments for laryngoscopy, oesophagoscopy & bronchoscopy. Learn procedures of each			
5.	See 5 cases of tracheostomy. Learn technique of pre & post-operative management			
6.	See 2 antral washout operation. Learn instruments & principles of operation. See 3 cases of FB Nose. Learn technique of removal.			
7.	Learn instruments of nasal polypectomy, SMR, Cald-Wel-Luc operation. Learn principles for operation and post operation complications			
8.	Learn instruments for mastoid operations. Learn principles of mastoidectomies. See 3 cases of F.B Ears. Learn technique of removal.			
9.	See 5 cases of dysphagia. Learn management. Learn all about nasogastric feeding			
10	See 10 cases of Head & Neck swellings Establish diagnosis.			
11.	See ENT X-rays including C-T scans. Interpret common findings			

Note: At the end of these items an evaluation of students will be made. 12.5% of the Practical, Clinical and Oral marks may be credited for this.

Total Number of attendance		Out of	
Punctuality			
Attitude to learning			
Relationship with staff & patients			
Percentage of marks obtained in items examination			
Signature of Professor / Associate Professor	Date :		

ACADEMIC CALENDER OF SURGERY													
First Term: 3rd year (20 Weeks)							Second Term: 4th year (16 Weeks)				Third Term: 5th year (16 Weeks)		
GENERAL SURGERY	RADIOTHERAPY	RADIOLOGY	DENTISTRY	BLOOD TRANSFUSION	ANAESTHESIA	CASUALTY AND EMERGENCY	E.N.T	EYE	ORTHOPAEDICS	SURGERY OPD.	EYE	E.N.T	GENERAL SURGERY
01- 12	13	14	15	16	17	18-20	01- 04	05 - 08	09 - 12	13 - 16	01 - 04	05 - 08	09 - 16

Assessment of Surgery

Assessment systems and mark distribution

Components	Marks	Total Marks
Formative assessment		
General Surgery	10	
Ophthalmology	05	
ENT	05	20
WRITTEN EXAMINATION		
Paper – I, General Surgery -MCQ	20	
SAQ	70	
Paper - II- Ophthalmology- MCQ	10	
SAQ	35	
ENT- MCQ	10	
SAQ	35	180
Oral, Clinical & Practical		
General Surgery		
Oral	60	
Clinical	60	
Practical	60	
Ophthalmology		
Oral	20	
Clinical	20	
Practical	20	
ENT		
Oral	20	
Clinical	20	
Practical	20	
Oral examination should be structured.		300
Grand Total		500

- There will be separate Answer Script for MCQ
- Pass marks 60 % in each of theoretical, oral and practical
- Oral, Clinical & Practical Examination will be in 2 days, One day- G. Surgery, another day- Ophthalmology + ENT.

Core Curriculum of Obstetrics & Gynaecology

Departmental Objective

At the end of the course of obstetrics & gynaecology the undergraduate medical students will be able to:

- (i) Provide proper care in managing women's health including pregnancy, labour and puerperium and to ensure maternal and neonatal health and well being and give proper advices.
- (ii) Diagnose and manage patients with common obstetrical and gynaecological problems.
- (iii) Refer high risk cases appropriately.
- (iv) Resuscitate new born babies and impart proper care.
- (v) Demonstrate appropriate attitude required to practise obstetrics and gynaecology.
- (vi) Demonstrate an understanding about the impact of socio-cultural beliefs and environmental factors on women in pregnancy, labour and puerperium including their overall reproductive health.
- (vii) Advise, counsel and motivate women about contraception and family planning, and women's right.

LEARNING OBJECTIVES FOR OBSTETRICS

At the end of the course the student will be able to apply knowledge and understanding of the following concepts and principles in relation to the objectives of the clinical course:

- Conception and development of fetoplacental unit
- Anatomy of placenta & umbilical cord
- Physiology of amniotic fluid, placenta and umbilical cord
- Anatomical and physiological changes during pregnancy
- Diagnosis of pregnancy
- Objectives, principles of antenatal care, identification of high risk pregnancies
- Nutrition during pregnancy and lactation
- Vomiting in early pregnancy
- Stages, mechanism of normal labour
- Diagnosis of stages of labour and assessment of progress of labour
- The partograph
- Pain relief
- Management of normal labour
- Management of normal puerperium
- APH, Mal- presentations, mal-positions & its management
- Abnormal Labour and its management
- PPH and its causes
- Breast feeding
- Abnormal puerperium and management
- Examination and care of new born
- Management of Birth Asphyxia
- Episiotomy, caesarean section, vacuum and forceps deliveries, version, destructive operations: their indications and complications
- Vital statistics: maternal and perinatal mortality and morbidity
- Common diagnostic aids in obstetrics
 - Ultrasonography
 - Basics of ultrasound
 - Role in obstetrics
 - Foetal monitoring
 - Pre-natal diagnostic techniques definitions

LEARNING OBJECTIVES FOR GYNAECOLOGY

At the end of the course student will be able to apply knowledge and understanding of the following concepts and principles in relation to the objectives of the clinical course:

- Basic anatomy of reproductive organs
- Developmental anomaly of female genital organs
- Physiology of reproduction
- Defense mechanism of genital tract
- In case of diseases, the student has to acquire a knowledge and understanding of the following:
 - Incidence of diseases
 - Natural history of diseases
 - Aetiology of diseases
 - Clinical presentation
 - Diagnosis
 - Treatment
 - Complications of diseases
 - Follow up of the patients
- Importance of contraception
 - Personal and national characteristics of ideal contraceptive, classification
 - Mechanism of action of contraceptives
 - Advantages and disadvantages of contraceptives
 - Complications of all methods particularly sterilization and Menstrual Regulation
- Common diagnostic techniques used in gynaecology such as:
 - Cervical smear
 - Laparoscopy
 - Hysteroscopy
 - Colposcopy
 - Ultrasonography
- Principle of common gynaecological surgical procedures

OBSTETRICS & GYNAECOLOGY MBBS COURSE SCHEDULE

TEACHING HOURS =145

4TH YEAR M.B.B.S

{1-10 months (teaching time 2 hours per week) +2 months preparatory for 2nd professional examination}

Lectures 27 hours + Demonstration (*) 10 hours + Small group teaching 29 hours = Total 60 hours

PHASE – 1 = 13 hours		PHASE – II = 12 hours		PHASE – III = 12 hours		PHASE – IV = 22 hours
Lecture – 10 hours	Demonstration – 04 hours	Lecture – 09 hours	Demonstration – 03 hours	Lecture – 09 hours	Demonstration- 03 hours	Tutorial /- Small group teaching 2 hours (per week) for each batch in turn/ Free time for study for others
Gynae – 5 hours Obs – 4hours	Gynae – 1 hour Obs – 3 hours	Gynae – 5 hours Obs – 4 hours	Gynae – 1 hour Obs – 2 hours	Gynae – 5 hours Obs – 4 hours	Gynae – 1 hour Obs – 2 hours	

5th YEAR M.B.B.S

{I- 10 months (teaching time 2 hours per week) + 2 months preparatory for final professional examination}

Lectures 59 hours + Demonstration 9 hours + Small group teaching 20 hours = Total 98 hours

PHASE – 1 = 24 hours		PHASE – II = 24 hours		PHASE – III = 20 hours		PHASE – IV = 30 hours
Lecture – 21 hours	Demonstration – 03 hours	Lecture – 20 hours	Demonstration – 04 hours	Lecture – 18 hours	Demonstration- 02 hours	Tutorial /- Small group teaching 2 hours (per week) for each batch in turn/ Free time for study for others
Gynae – 8 hours Obs – 13 hours	Gynae – 2 hour Obs – 1 hours	Gynae – 10hours Obs – 10 hours	Gynae – 1 hour Obs – 3 hours	Gynae – 9 hours Obs – 9 hours	Gynae – 1 hour Obs – 1 hours	

***Integrated teaching : 11 hours**

- (*) A demonstration will be a practical teaching session with a large group of students. It will be based on a patient's history, specimens or instruments, graphs or models or employ a video. Student participation is expected. Alternatively the time can be used for formative assessment by MCQ with subsequent feedback.

CLINICAL SCHEDULE
TEACHING HOURS – 386 HOURS

1ST ROUND – 4TH YEAR 8 WEEKS = 144 HOURS						2ND ROUND – 5TH YEAR 8 WEEKS = 242 HOURS					
2 Weeks 2W × 6D × 2 HS = 24 HOURS		2 Weeks 2W × 6D × 2 HS = 24 HOURS		4 Weeks 4W × 6D × 4 HS = 96HOURS		3 Weeks 3W × 6D × 4 HS = 72 HOURS		3 Weeks 3W × 6D × 4 HS = 72 HOURS		2 Weeks 2W × 7D × 7 HS = 98 HOURS	
Family Planning	Assessment	GOPD	Assessment	Basic clinical skill (indoor placement) -morning 2 hrs -evening 2 hrs	Assessment	Routine obstetrics (indoor placement) -morning 2 hrs -evening 2 hrs	Assessment	Routine Gynaecology (indoor placement) -morning 2 hrs -evening 2 hrs	Assessment	E.O.C. (Labour Word Placement) -morning 2 hrs -evening 2 hrs	Assessment

Teaching Methods

- Large group teaching
 - Lecture
 - Demonstration (video presentation)
- Small group Teaching
 - Bed side teaching, Tutorials
 - OPD- teaching
 - Teaching in Family planning clinic
 - Demonstration in Operation theatre
 - Demonstration in wards/ skill room
 - Field side teaching

Assessment of Gynaecology & Obs.

Components	Marks	Total Marks
Formative Assessment	10+10	20
WRITTEN EXAMINATION		
Paper – I- MCQ	20	180
SAQ	70	
Paper - II- MCQ	20	
SAQ	70	
PRACTICAL EXAMINATION		
OSCE / OSPE		100
CLINICAL EXAMINATION		
Obs. Case	25	50
Gynae. Case	25	
ORAL EXAMINATION (Structured)		
Obs	75	150
Gynae	75	
Grand Total		500

- There will be separate Answer Script for MCQ
- Pass marks 60 % in each of theoretical, oral and practical

OBSTETRICS & GYNAECOLOGY

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Assessment</i>	<i>Department</i>
<ul style="list-style-type: none"> Diagnosis of pregnancy 	Student should be able to: <ul style="list-style-type: none"> Obtain and record history Perform clinical examination (Obstetrics) Suggest appropriate investigation Interpret the result of investigation Fill up pathology requisition form 	Patient X-ray with View box Instrument USG- Photograph.	OSCE MCQ	Radiology & Pathology
<ul style="list-style-type: none"> Labour analgesia 	<ul style="list-style-type: none"> List the type of analgesia Describe the dose Mention the time of administration Mention the side effects and contraindications 	Spinal needle Epidural needle & catheter Drugs	OSCE	Anaesthesiology
<ul style="list-style-type: none"> Postnatal exercise 	<ul style="list-style-type: none"> State the time to start Postnatal exercise Mention the methods Demonstration of the methods. 	Pictoriae Chart	OSCE	Physical Medicine
<ul style="list-style-type: none"> Medical disorders in pregnancy <ul style="list-style-type: none"> Hypertension in pregnancy (PIH) Diabetes Heart Disease Urinary problems in Obst. & Gynae. Others: (Malaria, Jaundice) 	<ul style="list-style-type: none"> Describe changes in BP during pregnancy & PIH Mention the method & measure of BP Do the bed side Obs. examination Assess grade of Heart disease Take proper history and record it Advice appropriate investigations Do bedside urine test for albumin and sugar Suggest specific treatment 	BP machine Test tube Temperature chart Blackboard Investigation, table, chart Diabetic chart		Neurology Nephrology Internal Medicine Urology Paediatrics

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Assessment</i>	<i>Department</i>
<ul style="list-style-type: none"> APH PPH 	Student should be able to : <ul style="list-style-type: none"> Assess the degree of blood loss Do the bed side Hb% Carryout obstetrical exam Fill up blood requisition form 	Dummy, Video, Requisition form, Slide Projector With Slide	OSCE	Haematology Blood Transfusion
<ul style="list-style-type: none"> Newborn 	<ul style="list-style-type: none"> Describe physical features of newborn examine the newborn Describe care of newborn Define asphyxia neonatorum and demonstrate steps of resuscitation Diagnose common neonatal infections State the Apgar score and methods of resuscitations 	Dummy Model instrument	OSCE	Paediatrics
<ul style="list-style-type: none"> IUGR IUD 	<ul style="list-style-type: none"> Mention the type of IUGR Mention the radiological evidence of IUD State the significance of reduced fundal height Describe common complications of IUD and measures to prevent them 	X-ray	OSCE	Radiology & Imaging
<ul style="list-style-type: none"> Diagnostic aids 	<ul style="list-style-type: none"> Cite some biochemical tests used in obstetrics Describe the role of ultrasonogram in obstetrics Mention the role of radiology in obstetrics 	OHP X-ray films	OSCE	Biochemistry Ultrasonography Radiology

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Assessment</i>	<i>Department</i>
<ul style="list-style-type: none"> Vital statistics 	<ul style="list-style-type: none"> Define MMR, PNMR, CBR, CDR + FR Differentiate between infant mortality rate, perinatal mortality rate, neonatal death rate State the causes of maternal and perinatal mortality Explain the methods of calculating MMR, PNMR 	OHP Flipchart Blackboard.	OSCE	Community Medicine
<ul style="list-style-type: none"> Antenatal care 	<ul style="list-style-type: none"> Describe the schedule of antenatal care Describe the use of Antenatal card Give health education to pregnant women Mention immunization schedule for pregnant women. 	OHP Transparency Antenatal card Role play	OSCE Viva	Community Medicine
<ul style="list-style-type: none"> Family planning 	<ul style="list-style-type: none"> State the methods available and their usefulness Mention the mechanism of actions Introduce IUCD in dummy Outline the side-effects of contraceptives and their management Counsel women for contraception 	Model Dummy Video Cassette	OSCE Viva	Community Medicine

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Assessment</i>	<i>Department</i>
<ul style="list-style-type: none"> Anatomy of Reproductive organs 	<ul style="list-style-type: none"> Basic anatomy of uterus, ovaries, tubes, vagina and vulva Relationship of uterus, ovaries, tubes and vagina to other pelvic organs Developmental anomaly of genital organs 	Dummy Model Cadaver	MCQ	Anatomy
<ul style="list-style-type: none"> Physiology of reproduction 	<ul style="list-style-type: none"> Puberty, menstruation, ovulation Fertilisation and implantation 	OHP Video	MCQ	Physiology
<ul style="list-style-type: none"> Bleeding in early pregnancy 	<ul style="list-style-type: none"> Abortion: Definition, types, causes and management of all types of abortion Ectopic pregnancy: Definition, aetiopathology, clinical feature, differential diagnosis and abdomen principles of surgical management Trophoblastic tumours: (i) Hydatidiform mole: types, clinical features, complication differential diagnosis, management and follow up. (ii) Choriocarcinoma: diagnosis and management 	Model OHP Video	MCQ OSCE	Blood transfusion Pathology Onchology
<ul style="list-style-type: none"> Vaginal discharge 	<ul style="list-style-type: none"> Physiological and pathological 	Slides	OSCE	Pathology
<ul style="list-style-type: none"> Genital tract infection 	<ul style="list-style-type: none"> Defensive mechanism of genital tract Pelvic inflammatory diseases: acute and chronic Sexually transmitted diseases Genital tuberculosis 	Slides Video	OSCE	Pathology
<ul style="list-style-type: none"> Urinary incontinence 	<ul style="list-style-type: none"> Genitourinary fistula: types, causes, clinical features, principles of management, prevention 	OHP Slides Video	MCQ	Urology Radiology

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Assessment</i>	<i>Department</i>
<ul style="list-style-type: none"> Endometriosis 	<ul style="list-style-type: none"> Definition, types, clinical features principles of management 	OHP Slides	MCQ	Radiology Imaging
<ul style="list-style-type: none"> Neoplasia 	<ul style="list-style-type: none"> Benign and malignant conditions of cervix Benign and malignant conditions of uterus Benign and malignant tumours of ovary 	OHP Slides	MCQ	Imaging Oncology
<ul style="list-style-type: none"> Infertility 	<ul style="list-style-type: none"> Causes, investigation and management in case male and female partner Assisted reproductive techniques 	OHP Slides Video	MCQ	Pathology Radiology Imaging
<ul style="list-style-type: none"> Contraception 	<ul style="list-style-type: none"> Importance of contraception: personal and national characteristics of ideal contraceptive, classification, mechanism of action, advantages, disadvantages, complications of all methods particularly sterilization and MR 	OHP Contraceptive Sample	MCQ OSCE	Community Medicine
<ul style="list-style-type: none"> Diagnostic Aids 	<ul style="list-style-type: none"> Cervical smear Laparoscopy Hysteroscopy Colposcopy Ultrasonography 	OHP Slides Video	MCQ OSCE	Pathology Radiology Imaging
<ul style="list-style-type: none"> Gynaecological Surgical procedures 	<ul style="list-style-type: none"> Basic principle of surgery Wound healing Sepsis Trauma & its management. 	Patients OHP Slide Dummy	MCQ OSCE	Dept. of Surgery

Integrated Teaching

<i>Topic</i>	<i>Learning Objective</i>	<i>Teaching Aids</i>	<i>Assessment</i>	<i>Department</i>
<ul style="list-style-type: none"> Vital Statistics 	<ul style="list-style-type: none"> To define maternal mortality & perinatal mortality + neonatal mortality To mention MMR in Bangladesh and in neighbour SARC Country To mention the obstetrics causes of maternal mortality in our country To describe the socio-economic causes of maternal mortality in our country To mention the national programme for reduce maternal morbidity. To mention the national programe of MCH and FP To describe EOC and safe motherhood. To mention the PMR in Bangladesh in relative to SARC country. 	Lecture Distribution of Handout OHP Transparency Handout Board	MCQ OSCE	Community Medicine.

CORE
CONTENTS

Obstetrics

Conception and development of fetoplacental unit

- (a) Fertilisation, implantation, fetoplacental unit, placental barrier
- (b) Placenta, amniotic fluid and umbilical cord: Development, structure and function

Anatomical and physiological changes during pregnancy

Diagnosis of pregnancy

Consulting in reproductive health:

Antenatal care

- (a) Counselling
- (b) Objectives, principles of antenatal care, identification of high risk pregnancy
- (c) Nutrition during pregnancy and lactation
- (d) Vomiting in early pregnancy

Normal labour

Assessment of Patients in labour.

- (a) Onset of labour
- (b) Stages, mechanism of normal labour
- (c) Management of normal labour
- (d) Diagnosis of stages and assessment of progress of labour
- (e) Partograph
- (f) Pain relief
- (g) Monitoring Progress of labour:

Foetal condition, Maternal conditions.

Normal puerperium

- (a) Anatomical and physiological changes during puerperium
- (b) Management of normal puerperium
- (c) Breast feeding

Hypertensive disorder in pregnancy including pre-eclampsia and eclampsia Medical disorders in obstetrics

- (a) Anaemia in pregnancy
- (b) Urinary problems in obstetrics
- (c) Diabetes
- (d) Heart disease
- (e) Hepatitis

Ante-partum haemorrhage

Definitions, classification, clinical features, complications and management

Rh incompatibility and blood transfusion in Obstetrics

Multiple pregnancy

Definitions and types, clinical features, complications, diagnosis and principles of management

Malposition and malpresentation: causes and management

Types, causes, diagnosis, complications and management

Abnormalities of labour

- (a) Prolonged labour: Definition, aetiology, diagnosis, complications, management
- (b) Obstructed labour: Definition, aetiology, diagnosis, complications, management

Post-partum haemorrhage (PPH)

Definitions, causes (atonic, traumatic and others) of PPH, prevention and management, follow up.

Abnormal puerperium

Abnormal puerperium and management

The newborn

Resuscitation, examination and care of the newborn.

Definitions related to newborn

Neonatal problems

Birth Asphyxia

Jaundice

Infection

Feeding

Other problems of newborn

to be taught by the paediatric department

IUGR & IUD

Causes, diagnosis and management

Obstetric operative procedures

perineotomy, caesarean section, vacuum and forceps deliveries, version, destructive operations: their indications and complications

Vital statistics:

MMR and perinatal mortality and morbidity.

Diagnostic aids in obstetrics

(a) Ultrasonography

- Basics of ultrasound
- Role in obstetrics

(b) Fetal monitoring- CTG

(c) Amniocentesis and other prenatal diagnostic techniques

Social Obstetrics

- (a) Maternal & perinatal morbidities and mortalities
- (b) Direct causes of maternal & perinatal morbidity and mortality – Contributing socio-economic & environment factors
- (c) Importance of family planning in prevention of obstetric problem
- (d) Strategies for promotion of maternal health & prevention of illness emphasising maternal nutrition, hygiene & medical care
- (e) National programs for MCH&FP, EOC, Combined service delivery

Gynaecology

Anatomy of the female reproductive organs

- (a) Basic anatomy of uterus, ovaries, tubes, vagina and vulva
- (b) Relationship of uterus, ovaries, tubes and vagina to other pelvic organs
- (c) Developmental anomaly of genital organs

Physiology of reproduction

- (a) Puberty, menstruation, ovulation
- (b) Fertilisation and implantation

Bleeding in early pregnancy

- Abortion:
Definition, types, causes and management of all types of abortion and this complications.
- Ectopic pregnancy:
Definition, aetiopathology, clinical feature, differential diagnosis and abdomen of acute principles of surgical management
- Trophoblastic tumours:
 - (i) Hydatidiform mole: types, clinical features, complications, differential diagnosis, management and follow up.
 - (ii) Choriocarcinoma: diagnosis and management, follow up

Vaginal discharge

Physiological and pathological, Diagnosis and treatment.

Menstrual disorder

- (a) Amenorrhoea:
Types, causes and principles of management
- (b) Menorrhagia:
Definition, causes and management
- (c) Metrorrhagia:
Definition, causes and management
- (d) Dysmenorrhoea : Definition types comes and management.
- (e) Dysfunctional uterine bleeding:
Definition, classification, diagnosis, principles of investigation and management

Genital tract infection

- (a) Defensive mechanism of genital tract
- (b) Pelvic inflammatory diseases: acute and chronic
- (c) Sexually transmitted diseases
- (d) Genital tuberculosis

Urinary incontinence – definition, types

- (a) Genitourinary fistula:-
Types, causes, clinical features, principles of management, prevention

Other genital tract injuries:

- (a) Perineal tear
- (b) RVF

Genital prolapse

Types, aetiology, clinical features, diagnosis, differential diagnosis, principles of management

Endometriosis

Definition, types, clinical features, principles of management

Neoplasia of reproductive organs

- Benign & malignant conditions of vulva & vagina
- Benign and malignant conditions of cervix
- Benign and malignant conditions of uterus
- Benign and malignant tumours of ovary

Infertility counselling

- (a) Causes, investigation and management both male and female partner.
- (b) Assisted reproductive techniques

Contraception

Counselling

Importance of contraception: personal and national characteristics of ideal contraceptive, classification, mechanism of action, advantages, disadvantages, complications of all methods particularly sterilization and MR.

Menopauses

- (a) Definition, physiological basis, changes in different organs of body, clinical features of menopausal syndrome, principles of management
- (b) Post-menopausal bleeding
- (c) Hormone replacement therapy

Diagnostic Technique

- (a) Cervical smear
- (b) Laparoscopy
- (c) Hysteroscopy
- (d) Colposcopy
- (e) Ultrasonography

Principles of common gynaecological operations

Additional Contents

Obstetrics

- (1) Developmental structure of placenta
- (2) Antenatal foetal screening
- (3) Mechanism of onset of normal labour (theories)
- (4) Labour analgesia
- (5) Thromboembolism
- (6) Other hypertensive disorders
- (7) Pathophysiology of pre-eclampsia and eclampsia in details
- (8) Haemolytic anaemia
- (9) Nephritis and renal failure in obstetrics
- (10) Treatment of Rh incompatibility
- (11) Management of IUGR
- (12) Management of inversion of uterus
- (13) Diagnostic aids in obstetrics
 - (a) Ultrasonography
 - (b) Foetal monitoring-CTG
 - (c) Amniocentesis, CVS, MSAFP
 - (d) X ray

Gynaecology

- (1) Genital tuberculosis
- (2) Management of endometriosis - recent advances
- (3) Assisted reproductive techniques
- (4) Hormone replacement therapy
- (5) Diagnostic techniques
 - (a) Laparoscopy
 - (b) Hysteroscopy
 - (c) Colposcopy
 - (d) Ultrasonography
- (6) Hormonal disorders in gynaecology
- (7) STDS

Lectures
In
Obstetrics

Lectures in Obstetrics (4th Year)

Content		Lecture Hours
FIRST PHASE		
1. Conception and development of fetoplacental unit	Fertilisation, implantation, fetoplacental unit, placental barrier	1 hour
2. Placenta, amniotic fluid and umbilical cord: Development, structure and function		2 hours
3. Anatomical and physiological changes during pregnancy		1 hour
4. Diagnosis of pregnancy		1 hour
5. Demonstration/ video presentation/ discussion		3 hours
SECOND PHASE		
6. Antenatal care	(a) Objectives, principles of antenatal care, identification of high risk pregnancy	2 hours
	(b) Nutrition during pregnancy and lactation	1 hour
	(c) Vomiting in early pregnancy	1 hour
7. Demonstration/video presentation/discussion		2 hours
THIRD PHASE		
8. Normal labour	(a) Stages, mechanism of normal labour	2 hours
	(b) Management of normal labour	
9. Normal puerperium	(a) Physiology	1 hour
	(b) Management	
10. Baby	(a) Care of newborn baby	1 hour
	(b) Breast feeding	

Lecture contents in Obstetrics (5th Year)

Content		Lecture Hours
FIRST PHASE		
1. Hypertensive disorder in pregnancy including pre-eclampsia and eclampsia		3 hours
2. Medical disorders in obstetrics	(a) Anaemia in pregnancy (b) UTI (c) Diabetes (d) Heart diseases (e) Hepatitis, malaria & other	3 hours
3. RH incompatibility		1 hour
4. Ante-partum haemorrhage	(a) Definitions, classification, clinical features, complications and management	2 hours
5. Multiple pregnancy	Types and definitions, clinical features, complications, diagnosis and principles of management	1 hour
6. Malposition and malpresentation: causes and management		3 hours
Demonstration/ video presentation/ discussion		1 hour
SECOND PHASE		
7. Normal labour	<ul style="list-style-type: none"> • Review of what has already been taught • Diagnosis of stages and assessment of progress of labour • PARTOGRAPH • Pain relief • Foetal monitoring 	3 hours
8. Abnormal labour	(a) Prolonged labour: Definition, aetiology, diagnosis, complications, management (b) Obstructed labour: Definition, aetiology, diagnosis, complications, management (c) Ruptured uterus	2 hours
9. Post-partum haemorrhage (PPH)	Definitions, causes (atonic, traumatic and others) of PPH, prevention and management	2 hours
10. Puerperium	(a) Review of what has already taught (b) Abnormal puerperium and management	1 hour
11. The new born	(a) Definition related to new born (b) Examination and care of new born (c) Management of asphyxia neonatorum (d) Jaundice (e) Feeding (f) Other problems in new born	2 hours
Demonstration/ video presentation/ discussion		3 hours

Content		Lecture Hours
THIRD PHASE		
13. IUGR, Pre-maturity, Post-maturity & IUFD and their complication		2 hours
14. Obstetric operative procedures	perineotomy, caesarean section, vacuum and forceps deliveries, version, destructive operations: their indications and complications	3 hours
15. Vital statistics: MMR and perinatal mortality and morbidity: Definitions & ethical obstetrics		2 hours
16. Diagnostic aids in obstetrics and modern advances in obstetrics (a) Ultrasonography I. Basics of ultrasound II. Advantages of ultrasound III. Role in obstetrics IV. Limitation (b) Foetal monitoring (c) Amniocentesis, CVS, MSAFP		2 hours
Demonstration/ video presentation/ discussion		1 hour

Learning Objectives – Lecture Obstetrics

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>The student should be able to</p> <ul style="list-style-type: none"> Define the common terms used in obstetrics Define conception, fertilization implantation, fetoplacental unit and placental barrier. 	<p>1. Feto placental Unit :</p> <ul style="list-style-type: none"> Terms & definition Fertilisation, implantation, fetoplacental unit, placental barrier 	Lecture (Small group teaching)	OHP	1 hour	MCQ
<ul style="list-style-type: none"> Mention development, structure & function of placenta. Describe the formation, circulation and function of amniotic fluid. Mention structural, function and development of umbilical cord. 	<p>2. Placenta, amniotic fluid and umbilical cord: Development, structure and function</p>	Lecture Demonstration (Small Group Teaching)	OHP, Slide, Speech ,	2 hours	MCQ Short written exam Oral test
<ul style="list-style-type: none"> Mention the structure changes during pregnancy To know the physiological changes of pregnancy menstruates 	<p>3. Anatomical and physiological changes during pregnancy</p>			1 hour	
<ul style="list-style-type: none"> Take history of memorial with early symptom of pregnancy Mention the early symptoms of pregnancy 	<p>4. Diagnosis of Pregnancy</p>	Lecture Demonstration of slide	OHP, Pregnant mother, Slide projector	1 hour	Long Essay OSCE Oral test

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>The student should be able to:</p> <ul style="list-style-type: none"> State the objectives, aims and principle of antenatal care Mention the time schedule and procedure of antenatal care Identify the high risk pregnancy Counsel women on importance of <ul style="list-style-type: none"> (a) Regular antenatal checkup (b) Nutrition (c) Personal Hygiene (d) Life style during pregnancy (e) Breast feeding Do the per abdominal obstetrical exam Interpret the finding of P/A exam with H/o amenorrhoea Describe the finding of P/V examination in diagnosis of early pregnancy Suggest the relevant laboratory investigation for diagnosis of pregnancy Differentiate the pregnancy from uterine and ovarian tumour. 	5. Antenatal care	<p>Lecture</p> <p>Demonstration</p> <p>Role play</p>	<p>OHP, White board, Marker, Pregnant mother, Antenatal, Pictorial card, Poster</p> <p>OHP, Pregnant mother, Slide projector</p>	3 hours	<p>Long Essay</p> <p>OSCE</p> <p>Oral test</p> <p>MCQ</p>

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>The student should be able to</p> <ul style="list-style-type: none"> Describe the characteristics of normal labour. Recognise each stage of labour Plot the events of labour on partograph and interpret the graph Describe the mechanism of labour Mention the management of each stage of labour 	6. Normal Labour	Lecture Demonstration	OHP, Pantograph, Dummy & Fetas, Video, Marker,	2 hours	OSCE SEQ
<ul style="list-style-type: none"> Define pre-eclampsia, eclampsia, mention incidence, etiology, theories describe the stages of convulsion diagnose, recognise complications and describe management 	<p>7. Pregnancy Disorder</p> <p>pre-eclampsia</p> <p>+</p> <ul style="list-style-type: none"> Eclampsia 	Lecture Video Presentation Slide show	OHP White board Marker Video	3 hours	Long Essay MCQ Short Essay MCQ Short Essay
<ul style="list-style-type: none"> Define APH, mention its causes + understand the types of APH Differentiate between placenta previa and abruptio placentae Mention the complication of abruptio placentae including DIC. To manage the placenta praevia, abruptio placentae 	8. APH	Lecture Slide show	OHP White board Marker Slide Projector	2 hours	Long Essay MCQ Modified Essay

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
The student should be able to: <ul style="list-style-type: none"> Define hyperemesis gravidarum +diagnose it + Mention etiological basis + describe management + complications 	8. Hyperemesis Graviderum	Lecture Video show Slide show	OHP White board Marker		Long Essay M C Q
<ul style="list-style-type: none"> Define the Rh antibody + ve incompatibility and its pathophysiology Manage pregnancy and labour in a women having Rh Reactive blood 	10. RH incompatibility			1 hour	Modified Essay
<ul style="list-style-type: none"> Define IUGR Mention etiological factors Describe the proper monitoring for IUGR Mention complications and management. 	11. IUGR	Lecture Video White board Marker	OHP White board Marker	2 hours	
<ul style="list-style-type: none"> Define multiple pregnancy Mention incidence & etiological factors Mention the types Mention the complications Diagnose and manage the multiple pregnancy 	12. Multiple pregnancy			1 hour	
<ul style="list-style-type: none"> Define post-dated pregnancy + state etiological factors+ diagnose post-dated pregnancy + List complications + manage post-dated pregnancy 	13. Post Dated Pregnancy	Lecture Video	OHP White board Marker	1 hour	Long Essay MCQ Modified Essay
<ul style="list-style-type: none"> Define anaemia & its types + state incidence + complications + diagnose and manage 	14. Medical disorder in pregnancy :- a) Anemia			3 hours	

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>The student should be able to</p> <ul style="list-style-type: none"> Describe cardiovascular change in pregnancy Mention incidence of Heart disease Diagnose the grading. List complications Manage the pregnancy with heart disease Describe the effect of jaundice on pregnancy and its outcome Manage the pregnancy with jaundice Describe the incidence Mention the effect of these on pregnancy and vice versa Diagnose and manage Mention the incidence & to describe the causes of UTI in pregnancy Diagnose and to manage UTI in pregnancy List the complications To recognise the diabetes in pregnancy Describe the importance of Diabetes in pregnancy Diagnose the aetiology in pregnancy Mention the effect of Diabetes on pregnancy and vice versa Describe the management during pregnancy and labour & follow-up. 	<p>b) Pregnancy with Heart Disease</p> <p>c) Pregnancy with Jaundice</p> <p>d) Pregnancy with other Medical disorder – Tuberculosis, Thyroid disease, Malaria, Bleeding disorders.</p> <p>e) Pregnancy with UTI</p> <p>f) Pregnancy with Diabetes</p>	<p>Lecture Video Slide show</p>	<p>OHP Marker Blackboard Slide projector</p>		<p>Long Essay MCQ Self Assessment Essay Modified Essay</p>

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>The student should be able to</p> <ul style="list-style-type: none"> Define and understand obstructed labour Mention the etiological factors Diagnose and manage the obstructed labour Describe the complications <ul style="list-style-type: none"> Define and understand prolonged labour Differentiate prolonged labour from obstructed labour Describe the complications Manage the prolonged labour <ul style="list-style-type: none"> Define the ruptured uterus Mention the etiological factors and incidence Diagnose and manage 	<p>15. Abnormal labour :</p> <p>a) Obstruct Labour</p> <p>b) Prolonged Labour</p> <p>c) Raptured Uterus</p>	<p>Lecture</p> <p>Video</p> <p>Slide</p>	<p>OHP</p> <p>Marker</p> <p>Board</p>	<p>2 hours</p>	<p>Long Essay</p> <p>Modified</p> <p>Essay</p> <p>MCQ</p>
<ul style="list-style-type: none"> Define PPH List the types Describe the causes Describe the complications Describe retained placenta Diagnose and manage retained placenta Diagnose and manage of PPH. 	<p>16. PPH</p>	<p>Lecture</p> <p>Video</p> <p>Slide</p>	<p>OHP</p> <p>Marker</p> <p>Board</p>	<p>2 hours</p>	<p>Long Essay</p> <p>SAQ</p> <p>MCQ</p>

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>The student should be able to</p> <ul style="list-style-type: none"> Describe the common obstetric procedures Describe the role of these procedures in obstetrics Define and to differentiate it from trial of Labour Mention the types of induction Describe the indication and complication of each type of induction Define and know the types Describe the procedure of version Describe the indication and complications Describe the post version management Define and state the types and Episiotomy Explain the indication and procedure Describe the management Describe the complications List the types Explain the indication and prerequisite and contraindications Describe the procedure List the complications Write down the postnatal management 	<p>Obstretic operative procedure:</p> <p>a) Induction of Labour</p> <p>b) Version</p> <p>c) Episiotomy perineotomy</p> <p>d) Forceps delivery</p>	<p>Lecture Video Demonstration</p>	<p>OHP Board Marker Model Dummy Forcep</p>		<p>Short Essay Modified Essay</p>

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>The student should be able to</p> <ul style="list-style-type: none"> Describe the different destructive operations Mention the indication of each destructive operations Mention the pre-operative and post-operative management Describe the complication of each destructive operation Mention the role of destructive operations in modern obstetrics 	i) Destructive operations	Lecture Demonstration Slide show	OHP Board Marker Dummy	2 hrs.	Long Essay Modified Essay Short Essay
<ul style="list-style-type: none"> Define and understand the normal puerperium Mention the anatomical and physiological changes in normal puerperium Describe the process of involution Manage the normal puerperium Describe the abnormal puerperium Mention the complications of puerperium Manage the abnormal puerperium 	j) Puerperium	"	"	1 hour	
<ul style="list-style-type: none"> Describe the care of new born Mention the immunization schedule of new born care Mention the management of umbilical cord 	17. Care of New Born:			3 hours	

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>The student should be able to</p> <ul style="list-style-type: none"> Describe the asphyxia neonatorum Mention the causes of asphyxia Describe APGAR score and its interpretation Diagnosis and manage List the complications Describe the physiology of lactation Describe the pre-lacteal feed, attachment, nipple infection, exclusive Breast feeding Mention the advantages of breast feeding Counsel a mother for Breast feeding List the 10(Ten) steps List the types Describe the aetiology Manage the birth injuries Describe the common neonatal infection Outline Diagnose and to manage List the complications Describe Foetal Monitoring in pregnancy and in labour Mention the different method used for Foetal Monitoring Recognise the Foetal Distress and describe the management Describe the interpretation of Foetal monitoring. 	<p>a) Asphyxia, Neenatorum</p> <p>b) Baby Feeding</p> <p>c) Birth Injuries</p> <p>d) Neonatal Infections</p> <p>e) Foetal Monitoring</p>	<p>Lecture Demonstration Model</p>	<p>OHP Board Marker Model</p>		<p>Short Essay</p> <p>MCQ</p> <p>Long Essay</p> <p>PMP</p>

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>The student should be able to</p> <ul style="list-style-type: none"> • Describe the diagnosis and in obstetrics • Understand the principles of ultrasound • Mention the role and advantages of ultrasonography in obstetrics • Describe the indications of ultrasonography • Mention the limitations • Understand principle of radiology • Mention the role and advantages • Describe its limitation in obstetrics • Mention the different views of Radiology in obstetrics <ul style="list-style-type: none"> • Define amniocentesis • Mention the advantages • State the indications 	<p>18. diagnostic aid in obstetrics :</p> <p>a) Ultrasonography</p> <p>b) Radiology</p> <p>c) Amniocentesis, CVS, MSAFP</p>	<p>Lecture Demonstration</p>	<p>OHP Board Marker Ultrasono graphy report X-ray plate View Box</p>	<p>2 hours</p>	<p>Short Essay OSCE</p>

Learning Objectives for Obstetrics

The student will be able to apply knowledge and understand the following:

1. Normal pregnancy
 - Diagnosis of pregnancy
 - Antenatal Care
 - Screening for high risk pregnancy
 - Nutrition and Hygiene of a pregnant mother
2. Hypertensive disorders of pregnancy including pre-eclampsia, Eclampsia. APH, Rh incompatibility, IUGR, Multiple pregnancy, grand multiparity, pre-maturity, post maturity.
 - Definition
 - Aetiology
 - clinical presentation
 - Diagnosis
 - Management
 - Complication
 - Follow up of treatment.
3. Medical disorders in pregnancy (Anaemia, Diabetes, UTI, Heart disease, Jaundice, Tuberculosis & others)
 - Incidence of diseases
 - Natural history of diseases
 - Aetiology
 - Clinical presentation
 - Diagnosis
 - Management
 - Effect on pregnancy and vice versa
4. Normal labour –
 - Definition
 - Stages; mechanism
 - Diagnosis
 - Management
 - Partograph
5. Abnormal labour
 - Definition
 - Types
 - Diagnosis
 - Management
 - Follow-up

6. Puerperium:
 - Definition of normal puerperium
 - Anatomical and physiological changes
 - Management of normal puerperium
 - Post-natal care including general advice
 - Course of abnormal puerperium
 - Management of abnormal puerperium
7. New born:
 - Definitions related to newborn
 - Examinations and care of newborn
 - Resuscitations
 - Diagnosis and management of asphyxia, jaundice and neonatal infections
 - Feeding problems
8. Common diagnostic techniques Ultrasonography, Radiology, Foetal Monitoring and Amniocentesis, CVS, MSAFP
 - Uses
 - Advantages
 - Disadvantages
9. Obstetric procedures and operations:
 - Induction of labour
 - Version
 - Episiotomy
 - LUCS
 - Forceps delivery
 - Ventouse delivery
 - Destructive operations
10. Vital statistics and social obstetrics
 - Maternal & Perinatal mortality and morbidities
 - Causes of maternal and perinatal mortality and morbidities including socio-economic and environmental factors.
 - Method of calculating MMR, PNMR
 - National programs for MCH&FW, EOC, Combenid service delivery.

Lectures
In
GYNAECOLOGY

Lectures in Gynaecology (4th Year)

Content		Lecture Hours
FIRST PHASE		
1. Anatomy of the female reproductive organs	(a) Basic anatomy of uterus, ovaries, tubes, vagina and vulva (b) Relationship of uterus, ovaries, tubes and vagina to other pelvic organs (c) Development & developmental anomaly of genital organs	2 hours
2. Physiology of reproduction	(a) puberty, menstruation, ovulation (b) fertilisation and implantation	3 hours
3. Demonstration/ video presentation/ discussion		1 hour
SECOND PHASE		
4. Bleeding in early pregnancy	(a) Abortion Definition, types, causes and management of all types of abortion	2 hours
	(b) Ectopic pregnancy Definition, aetiopathology, clinical features, differential diagnosis and principles of surgical management.	1 hour
	(c) Trophoblastic tumours I. Hydatiform mole: types, clinical features, complication differential diagnosis, management and follow up. II. Choriocarcinoma: diagnosis and management	2 hours
1. Demonstration/ video presentation/ discussion		1 hour
THIRD PHASE		
6. Vaginal discharge	(a) physiological (b) Pathological and their management	1 hour
7. Menstrual disorder	(a) Amenorrhoea Types, causes and principles of management	1 hour
	(b) Menorrhagia Definition, causes and management	2 hours
	(c) Metrorrhagia Definition, causes and management	
	(d) Dysmenorrhoea	1 hour
	(e) Dysfunctional uterine bleeding Definition, classification, diagnosis, principles of investigation and management	
8. Demonstration/ video presentation/ discussion		1 hour

Lecture contents in Gynaecology (5th Year)

Content		Lecture Hours
FIRST PHASE		
1. Genital tract infection	(a) Defense mechanism of genital tract (b) Pelvic inflammatory diseases: acute and chronic (c) Sexually transmitted diseases including AIDS (d) Genital tuberculosis	1 hour 1 hour 1 hour
2. Urinary incontinence	(a) Definition, types (b) Genitourinary fistula: Types, causes, clinical features, principles of management, prevention	1 hour 1 hour
3. Genital tract injuries:	(a) Perineal tear (b) RVF (c) Vaginal stenosis	1 hour
4. Genital prolapse	Types, aetiology, clinical features, diagnosis, differential diagnosis, principles of management	2 hours
5. Demonstration/ video presentation/ discussion		2 hours
SECOND PHASE		
6. Endometriosis	Definition, types, clinical features principles of management	1 hour
7. Neoplasia of reproductive organs	(a) Benign and malignant tumours of cervix Classification (fibroid, polyp, carcinoma cervix), clinical features, staging investigation, diagnosis, principles of management, PAP smear (cervical smear) (b) Benign and malignant tumours of uterus (c) Benign and malignant tumours of ovary	7 hours 3+2+2
8. Infertility	(a) causes, investigation and management both male and female partner (b) Assisted reproductive techniques	2 hours
9. Demonstration/ video presentation/ discussion		1 hour

Content		Lecture Hours
THIRD PHASE		
10. Contraception	Importance of contraception: personal and national characteristics of ideal contraceptive, classification, mechanism of action, advantages, disadvantages, complications of all methods particularly sterilization and menstrual regulation.	4 hours
11. Menopause	(a) Definition, physiological basis, changes in different organs of body, clinical features of menopausal syndrome, principles of management (b) Post menopausal bleeding (c) Hormone replacement therapy	2 hours
12. Diagnostic Technique	(a) Cervical smear (b) Laparoscopy (c) Hysteroscopy (d) Coloscopy (e) Ultrasonography	2 hours
13. Principle of common gynaecological surgeries		1 hour
14. Demonstration/ video presentation/ discussion		1 hour

Gynaecology

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
At the end of session the students will be able to:					
<ul style="list-style-type: none"> Describe the gross anatomy of ovaries, uterus, fallopian tubes, vagina & vulva Mention the blood supply, lymphatic drainage and nerve supply of these organs Discuss the relations of the pelvic organs with each other describe the development and developmental anomaly of pelvic organs 	Basic Anatomy of genital organs	Lecture Video Presentation Demonstration	OHP Television VCR Cassette White board Marker Charts	2 hours	OSCE Short question MCQ Modified essay
<ul style="list-style-type: none"> Define puberty, ovulation, menstruation, menopause, climacteric, fertilisation and implantation Mention the changes in reproductive organs in different stages of life Describe the mechanism of ovulation, menstruation fertilisation, implantation Mention the situations where physiology can get disturbed. 	Physiology of reproduction	Demonstration/ video presentation/ discussion		3 hours	Observation by the facilitator check list
<ul style="list-style-type: none"> Describe the subject more clearly Clarify their queries Improve their communication and presentation skill. 				1 hour	

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>At the end of session the students will be able to:</p> <ul style="list-style-type: none"> • Define each problems • Know the incidence of each problem • Classify abortions • Differentiate different abortions • Understand the pathology of mole and choriocarcinoma • Diagnose each problem • Manage each problem • Know the complication of each problem • Understand the physiology of vaginal discharge. • Differentiate physiological and pathological vaginal discharge. • Diagnose the diseases causing vaginal discharge • Understand the treatment of vaginitis, cervicitis • Define amenorrhoea, menorrhagia, polymenorrhoea, polymenorrhagia, Metrorrhagia, dysmenorrhoea, dysfunctional uterine bleeding. • Understand types of amenorrhoea its causes and management • Know types of dymenorrhoea • Know the causes and management of metrorrhagia • Classification, diagnosis principles of investigations and management of dysfunctional uterine bleeding. 	<p>Bleeding in early pregnancy Abortion, ectopic pregnancy, hydatidiform mole, choriocarcinoma</p> <p>Vaginal discharge</p> <p>Menstrual Disorder</p>	<p>Lecture Demonstration Video presentation</p>	<p>OHP Television VCR Cassette White board Marker Charts</p>	<p>(2 + 1+ 2+ 1) hour</p> <p>1 hour</p> <p>4 hours</p>	<p>OSCE Short essay Modified essay Oral Practical</p> <p>Observation by the facilitator check list</p>

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>At the end of session the students will be able to:</p> <ul style="list-style-type: none"> • Understand the defence mechanism of genital tract • Define, classify, diagnose manage pelvic inflammatory disease. • Understand the effects of sexually transmitted diseases on reproductive health of women • To diagnose and treat a case of genital tuberculosis. • Define and classify urinary incontinence • Know the types, causes, diagnosis, presentation and management of genitourinary fistula. • Understand different types of perineal tear • To diagnose and manage perineal tear and RVF, vaginal stenosis • Understand the aetiology of genital prolapse • Classify genital prolapse • Know the clinical features • Diagnose a case of genital prolapse • Know the principles of management of genital prolapse. • Understand the subject more clearly • To clarify their queries • To improve their communication and presentation skill. 	<p>Genital Tract infections</p> <p>Urinary Incontinence</p> <p>Genital tract injuries</p> <p>Other genital tract injuries</p>	<p>Lecture Demonstration Video presentation</p>		<p>3 hours</p> <p>2 hours</p> <p>1 hour</p> <p>2 hours</p> <p>2 hours</p>	

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>At the end of session the students will be able to:</p> <ul style="list-style-type: none">• Define endometriosis and adenomyosis• Understand the clinical features and pathology of endometriosis• Know the effects of endometriosis on reproductive health• Discuss the principles of treatment of endometriosis. <ul style="list-style-type: none">• Know the different types of tumours arising from uterus, cervix, ovaries, vagina, vulva• Classify the tumours of individual organs• Diagnose the tumours• Differentiate tumours arising from different organs.• Understand the complications of different tumours.• Discuss the principles of management of tumours of individual organs.• Know different screening tests done for gynaecological cancers.• Define infertility• Classify infertility• Understand the aetiology of infertility• Suggest investigations for both male and female partners.• Interpretation the investigation reports.• Suggest appropriate treatment• Know about the assisted reproductive techniques available.	Endometriosis	Lecture Demonstration Video presentation		1 hours	OSCE Oral Short essay Modified Essay
	Neoplasm of reproductive organs		Specimen	7 hour	
	Infertility		Specimen Analysis report X-ray Film View box	2 hours	
				1 hours	

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>At the end of session the students will be able to:</p> <ul style="list-style-type: none"> To know the different diagnostic Techniques commonly used To understand cervical smear To know the indication To understand the procedure To know the interpretation To know its relation with carcinoma cervix To become familiar with instruments To know the indications and contraindications To understand the procedure To know the complications Interprete the findings To understand colposcopy To become familiar with instruments To know the indications To understand the procedure Interprete findings To know the advantages To understand ultrasonography To become familiar with instrument To know the role of ultrasonography in gynaecology To understand the interpretation 	<p>Diagnostic Technique</p> <p>Cervical Smear</p> <p>Laparoscopy</p> <p>Colposcopy</p> <p>Ultrasonography</p>	<p>Lecture Demonstration Video VCR Television</p>	<p>OHP Marker Board Instrument Ultrasono graphy Machine Report</p>	<p>2 hours</p>	<p>Short Essay Model MCQ OSCE</p>

Learning Objectives	Contents	Teaching/ Learning strategy	Teaching Aids	Expected hours/ days	Assessment
<p>At the end of session the students will be able to:</p> <ul style="list-style-type: none"> • Describe the different gynaecological operations • Mention the indication of each operation • Describe the complications of each operations • Write down the pre-operative treatment of each operation • Mention the pre-operative investigation of each operation • write down post-operative treatment of each operation • Mention the relation of each operation with pregnancy and reproductive life. • Describe the name of anaesthesia for each operation 	Common Gynaecological Surgery	Lecture Video Presentation	OHP White board Marker Television	1 hour 1 hour	Long Essay MCQ Short Essay

CLINICAL
CURRICULUM
ON
OBSTETRICS
&
GYNAECOLOGY

CLINICAL CURRICULUM ON OBSTETRICS & GYNAECOLOGY

INTRODUCTION

The Core Curriculum for Clinical Attachment of 16 weeks has been organised into components of clinical experience as follows:

- | | | |
|----|--|---------|
| 1. | Basic Clinical Skills (in-patient) | 4 weeks |
| 2. | Family Planning Clinic | 2 weeks |
| 3. | Gynae & Antenatal Out-patient Clinic | 2 weeks |
| 4. | Routine Obstetrics | 3 weeks |
| 5. | Routine Gynaecology | 3 weeks |
| 6. | Emergency Obstetric Care E.O.C (Labour Room) | 2 weeks |

Fourth year M.B.B.S. students will participate in batches in turns in components 1, 2 and 3.

Component 1 will have 24 clinical teaching and learning sessions (4w x 6d=24) and component 2 & 3 will have 12 like-wise sessions each (2w x 6d = 12).

Each session will be conducted for 2 hours every morning from 09.00 a.m. – 11.00 a.m.

In the evenings, students will clerk/ practise for 2 hours from 07.00 p.m. – 09.00 p.m., under supervision

Fifth year M.B.B.S. students will participate in components 4, 5 and 6.

Component 4 and 5 will have 18 clinical teaching and learning sessions each (3w x 6d =18) and component 6 will have 12 like-wise sessions (2w x 6d =12).

Each session will be conducted for 2 hours every morning from 09.00 a.m. – 11.00 a.m.

In the evenings, students will clerk/ practise under supervision from 7.00 p.m. – 9.00 p.m.

The evening timing for component 6, however, will be from 4.00 p.m. – 9.00 p.m.

CONTENTS:

Topics included are relevant to every day clinical practise in the field of Gynaecology and Obstetrics.

Learning objectives (skills) are shown against each topic under each sessions.

Many of the topics of the content of the clinical course are supplemented by a study guide.

The study guides are structured to provide students with varied opportunities to facilitate active involvement and self-directed learning and also to enable them to exercise responsibility under guidance by making maximum and productive use of the period of time of their clinical attachment.

The study guide for the respective topic details

- (a) introduction,
- (b) pre-requisite learning,
- (c) the learning objectives,
- (d) learning opportunities,
- (e) assignments,
- (f) tasks to be performed,
- (g) resources,
- (h) self assessment questions.

4TH YEAR BASIC CLINICAL SKILLS

(COMPONENT – ONE)

4 weeks – 24 sessions in the morning

SESSIONS	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 1	(a) Introduction to Obstetrics & Gynaecology Review 1. Common diseases 2. Commonly used definitions (b) Brief students on course objectives/ activities and student's cards (c) Visit to ante-natal/ postnatal wards; labour/ eclampsia room; septic ward; Gynae ward; operation theatres	At the end of the session student will acquire knowledge and understanding of: (a) common gynaecological & obstetrics terms, common disease of O&G that are prevalent in the community (b) Course objectives, activities and students, continuous assessment card	Tutorial/small group discussion Organise	Participate in the discussion Visit to different activity areas of O&G Department
Session 2	Obstetric History taking This session will take the format of a discussion detailing Obs. History taking, followed by the opportunity to clerk an Obs. patient in the ward and subsequently present the case history.	Student will be able to: (a) Take history of an obstetrical case (b) Record the information on the history sheet (c) Present case history	Demonstration by teacher	a) Practice by students in groups b) Practice by individual student c) Case presentation

SESSIONS	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 3	Gynaecology history taking This session will take a similar format to Session II.	Student will be able to: (a) Take history of gynaecological case (b) Record the information on the history sheet (c) Present a case	Demonstration by teacher	a) Practice by students in groups b) Practice by individual student c) Case presentation
Session 4	Obstetric examination	(a) Perform obstetrical examination (i) General (ii) Abdominal	Demonstration by teacher	a) Practice by students in groups b) Individual case study using study guide c) Present clinical findings
Session 5	Gynaecological examination Taking of cervical smears (using models).	Perform gynaecological examination I. General II. Abdominal III. Speculum examination IV. Bimanual examination	Demonstration by teacher	Practice by students on dummy in clinical skill room
Session 6	Antenatal care with identification of high risk pregnancies	1. To record the finding on the antenatal cards by (I) Taking proper history (II) Performing general & abdominal examination 2. To advise pregnant women for appropriate investigation for screening for common risks	(a) Demonstration by a teacher (b) Lecture	Practice by case study in groups Case study by group
Session 7 & 8	Bleeding in early pregnancy Abortion, Ectopic Pregnancy, molar pregnancy- chorio-carcinoma	Rationalize the plan of management	Lecture/ video show	Discussion on individual case study

SESSIONS	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 9	Septic Abortion	Rationalize the plan of management	Lecturette/ video show	Discussion, individual case study
Session 10 to 12	Normal labour and Partogram Diagnosis, stages, Mechanism, Management with partogram	Recognise the events of labour Plot the events on the partogram and interpret the graph Rationalize the use of analgesic Conduct normal labour	Arrange video show/ Demonstration on partograph Demonstration of conducting normal labour	a. Observe video show b. Observe teacher's demonstration c. Plotting on partograph by individual d. Conduction of labour under supervision
Session 13	APGAR score, examination of new born, resuscitation & care of new born, breast feeding	Examine, diagnose problems and take immediate care of a new born	Arrange video show/ slide show/ demonstration	Observe: - video show - slide show - teacher's demonstration
Session 14 & 15	Normal puerperium & post natal care Abnormal puerperium	Counsel on (a) Nutrition of mother (b) Personal hygiene (c) Postnatal exercise (d) Breast feeding and weaning (e) Immunisation of baby (f) Postnatal check-up (g) Contraception	Role play by teacher	Role play by students in small group Practice with patients

SESSIONS	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 16	Abnormal uterine bleeding Definition, differential diagnosis	(a) Collect appropriate clinical information by history taking and examination (b) Suggest appropriate investigation (c) Interpret and correlate the investigations data with clinical findings for clinical diagnosis (d) To plan and rationalize the management	Lecture/ video show/ case demonstration	Discussion Individual case study
Lump Abdomen	-do-	-do-	-do-	
Abdominal / pelvic pain – P.I.D.	-do-	-do-	-do-	
Theatre sessions Preparation of patient, preoperative management, operative procedure, post operative management	(a) Write up appropriate pre & post operate order (b) Rationalize the order	Demonstration	Practise by students and peer group discussion Using study guide	
Evening Session	Clerk patients, observe labour room activities and practise the skills that the student learned in the morning sessions.			
Session 23	Assessment (Oral/ Clinical / OSCE)			
Session 24	Feedback			

N.B: Students must submit 3 obs. & 2 Gynae, history and must fill up assessment card.

Family Planning Course

For
4th year Medical Students
(COMPONENT –TWO)

Venue – Model Clinics of the Medical College Hospitals

Duration–2 weeks

Day	1	-	Administration and maintenance of records
	2	-	Promotion of family planning
	3	-	Counselling
	4	-	Oral contraceptive pills
	5	-	Intra-uterine contraceptive device
	6	-	Permanent methods
	7	-	Injectable contraceptives
	8	-	Norplant
	9	-	Safe period, lactation, condoms, spermicides, coitus interruptus
	10	-	Day visit: Management issues in family planning. Organisation of a clinic.
	11	-	Day visit: Organisation of a clinic(continued) Working as a member of a team. Acting as a supervisor.
	12	-	Assessment and feedback

Day 1:**Administration and Maintenance of records**

Intermediate Educational Objective: At the end of the session the student will be able to perform the necessary supervisory and administrative procedures of a family planning clinic and maintain proper records.

Specific educational objectives	Contents	Methods	Aids	Assessment
<p>The student will be able to:</p> <ol style="list-style-type: none"> 1) Monitor staff programme Maintain harmonious staff relations Maintain good communications Monitor the out put of a worker 2) Make appropriate referrals in an effective way between departments like the antenatal clinic, paediatric clinic, menstrual regulation clinic, and the family planning clinics 3) Follow standard procedures which will prevent medico-legal problems 4) Write useful clinical records and maintain the ledger book 5) Maintain data in an accessible and analysable form. Analyse data collected at a family planning clinic and interpret the results 	<p>Administration (organogram, responsibility, supervisory method, Method of communication) Staff pattern</p> <p>Interdepartmental linkages and Co-operation.</p> <p>Informed consent before prescription or procedure. Written consent. Standard procedure manuals. Communication with other staff Clinical record keeping</p> <p>Data recording, analysis and interpretation.</p>	<p>Lecture</p> <p>Visit antenatal clinic & paediatric clinic. Select patients and interview them to discuss use of family planning clinics and their contraceptive needs. Observe counsellor /MO taking consent from a client.</p> <p>Group discussion</p> <p>Demonstration of record keeping in doctors room. Examine and appraise an example of a patients record in group discussion</p> <p>Inspection of raw data collected at the clinic. Inspection of analysed data including graphs and tables. Interpretation of the results in group discussion</p>	<ul style="list-style-type: none"> • Black board • OHP • Radio • Cassette • Posters • Flip chart • Video 	<p>Participants</p> <p>Question & answers</p>

Day 2:**Promotion of Family Planning**

Intermediate role: At the end of the session the student will be able to play a leadership role in the promotion of family planning.

Specific educational objectives	Contents	Methods	Aids	Assessment
<p>A. At the end of the session the student should be able to:</p> <ol style="list-style-type: none"> 1. Define Family Planning 2. Describe the importance of Family Planning, particularly for our country 3. Demonstrate understanding that pregnancies can be avoided and spaced 4. Describe the personal benefits of birth spacing 5. Communicate with, advice and motivate individuals and group of clients 6. Supervise and support health education programme 7. Administer available posters/ leaflets 8. Use electronic and other media 9. Demonstrate the ways and means of community education/ mobilization 10. List the opportunities a medical practitioner has to promote Family Planning <p>B. At the end of this session the students should have acquired the required skill to:</p> <ol style="list-style-type: none"> 1. Communication with an individual client about family planning 2. Build rapport 	<p>Definition of family planning</p> <p>The population explosion</p> <ul style="list-style-type: none"> - Health & population indices - Demographic pattern & trends in Bangladesh <p>Benefits of Family Planning:</p> <ul style="list-style-type: none"> - personal - national - environmental <p>Health education</p> <p>Community mobilization and participation</p> <p>The use of media in the promotion of family planning</p> <p>The role of general practitioners, medical officers and specialists in the promotion of family planning</p> <p>Health care interview</p>	<p>}</p> <p>}</p> <p>}</p> <p>}</p> <p>} Small group teaching</p> <p>}</p> <p>}</p> <p>}</p> <p>}</p> <p>}</p> <p>Role play</p> <p>Demonstration</p> <p>Demonstration</p> <p>}</p> <p>}</p> <p>} Discussion</p> <p>}</p> <p>Brainstorming</p> <p>Lecturette & explanation.</p> <p>Students visit postnatal ward and interview patients individually & try to motivate them towards family planning.</p> <p>Group discussion on experience with the patients.</p>	<ul style="list-style-type: none"> • Blackboard • OHP • Radio • Cassette • Posters • Flip chart • Video 	<p>Participants</p> <p>Question & answers</p>

Day 3:**Lesson Plan - Counselling**

Intermediate Educational Objective:

At the end of the session the student should be able to explain the component of counselling, and be able to achieve good Inter-personal relations in a counselling situation.

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
A. At the end of the session the student should be able to:					
i) explain and define counselling and it's need	I) Definition of counselling and the need for it	Lecture in the small group session		<ul style="list-style-type: none"> OHP Blackboard 	Participants Question & answers
ii) explain inter-personal communication	II) Level of communication				
iii) list the barriers to inter-personal communication	III) Inter-personal communication and feedback				
	IV) Barrier to communications				
B. Students should have acquired the skill to be able to:					
1. Greet the client	i) Communication skill	Demonstration Role play	Observation Practice role play with peer group Practice with clients	<ul style="list-style-type: none"> Video Client Different contraceptive materials 	Checklist
2. Establish rapport	ii) Counselling skill				
3. Ask reasons for coming	iii) Taking account of educational status of the client				
4. Inform about available contraceptive methods with their mode of actions <ul style="list-style-type: none"> - effectiveness - method of application - availability of services - follow up - referral system 	Merits and demerits				
5. Assist the client in making decisions					

Day 4:**Lesson Plan – Oral Contraceptive Pill**

Intermediate Educational Objective: At the end of the session the student will be able to prescribe an appropriate Oral Contraceptive pill to the client.

Specific educational objectives	Contents	Methods	Aids	Assessment
The student should be able to:				
1. explain the mode of action and effectiveness of the OCP	Pharmacology of Oral contraceptives	}	<ul style="list-style-type: none"> • Blackboard • OHP • Variety of OCPs • Menstrual chart • Client 	Participants
2. list the advantages and disadvantages of OCP	Comparison of OCP with other contraceptives	} - 15m Brainstorming and lecturette to revise knowledge		
3. make a checklist for indications and contraindications, and make appropriate case selection	Side effects and complications of their management	}		
4. describe different OCP for making options for the client and advise the client about proper administration of OCP		-30m History of a patient & counselling about the oral contraceptive pill & observation of examination. Observation of instructions being given to the patient (small group session)		
5. write history and physical findings to identify contraindications to the OCP	History and physical examination prior to OCP prescription			
6. list the appropriate investigations		-15m Visit to ANC –each student selects 1 patient & asks questions about the patient's knowledge and attitude to the oral contraceptive pill.		
7. explain the follow-up procedure to the patient				
8. describe the side-effects and complications of OCP and their management		-10m Reporting back session with results given.		
9. describe how to keep proper records for patients on OCP		-15m Observe a doctor reviewing a patient who has been on the pill. Discuss side effects/ complications		

Day 5:**Lesson Plan – I.U.C.D.**

Intermediate Educational Objective: Student will be able to advise clients on I.U.C.D. insertion & refer them to specific clinic.

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>A. At the end of the session the student should have acquired knowledge of the following and be able to:</p> <ol style="list-style-type: none"> 1. Explain IUCD as a method of contraception 2. Explain mode of action of IUCD and its effectiveness 3. Explain the advantage & disadvantage of IUCD 4. List different types of IUCD 5. Take history and describe the steps of physical examination for case selection 6. Describe the insertion procedure 7. Describe the follow-up procedure 8. Explain the need of record keeping 	<ol style="list-style-type: none"> 1. Definitions & varieties 2. Mode of action and effectiveness 3. Advantage & disadvantage 4. Selection criteria 5. Time of insertion 6. P.V. steps of examination 7. Management of complications and referral 	Small group teaching	Role play Participation	<ul style="list-style-type: none"> • Blackboard • OHP • Specimen of IUCD 	<p>Participation of students</p> <p>Question & answers</p>

Lesson Plan – I.U.C.D. (Cont'd)

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>B. Student should have acquired skills to do the following:</p> <ol style="list-style-type: none"> 1. Communicate with client 2. Build rapport with his/her client 3. Assure clients 4. Take history of the client 5. Physical examination of the client 6. Refer to insertion centre 	<p>a. Health care interview</p> <ul style="list-style-type: none"> - interview planning - time - space - kind of exchange - interview questions - termination of interview <p>b. Assurance</p> <p>c. Steps of history taking</p> <p>d. Steps of physical examination</p> <p>e. procedure of referral</p>	<ul style="list-style-type: none"> • Demonstration • Organize role play 	<ul style="list-style-type: none"> • Observation • Role play • Participation in role play • Practising on models • Individualised learning 	Clients	Question & answers
<p>C. Should be able to describe the3 procedure of IUCD insertion</p>	<p>Procedure of insertion of IUCD</p>	<ul style="list-style-type: none"> • Facilitator • Practical demonstration 	<ul style="list-style-type: none"> • Observation 	<ul style="list-style-type: none"> • Clients and dummy • This could be taught in MR Clinic 	Question and answer

Day 6:**Lesson Plan – Permanent Methods**

Intermediate Educational Objective: Students will be able to counsel clients to enable them to make a choice about the acceptance of vasectomy or tubal occlusion.

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>At the end of the session, students should be able to:</p> <ul style="list-style-type: none"> • Name and define different permanent methods of contraception and their effectiveness • Counsel the patients • Select the patients • List the merits and demerits of these methods • Refer the patients to the appropriate centres • Take informed consent of the couple • Describe the steps of the operative techniques of these methods and the anaesthetic techniques used • List the complication sand their management • Mention the time of effectiveness of each method • Describe the importance of record keeping • Give appropriate advice for post-operative follow-up • Give advice about the very limited scope of reversal and the techniques used 	<p>Description of different method</p> <p>Health care interview</p> <p>Steps of history taking and physical examination</p> <p>Steps of operative techniques</p> <p>Advantages and disadvantages</p> <p>Complications and their management</p>	<p>Lecturette</p> <p>Demonstration of operative steps on models or video</p> <p>Demonstration of use of leaflets and posters</p> <p>Demonstration of counselling of a patient in real life or buy video</p>	<p>Practice by role play</p> <p>Group feedback</p>	<ul style="list-style-type: none"> • Blackboard • OHP • Models • Chart • Video cassette 	<p>Participation of students</p> <p>Question & answers</p>

Day 7:**Lesson Plan – Injectables**

Intermediate Educational Objective:

Student will be able to select suitable patients for use of injectable contraceptives and counsel them appropriately.

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>At the end of the session the student should be able to:</p> <ul style="list-style-type: none"> • Name different types of injectables • Counsel the clients • Establish rapport • Describe mode of action • Describe the advantage of injectables • Describe the route of administration and duration of action • Take an appropriate history and carry out an appropriate physical examination • Identify the different injectables and state their dose • Select appropriate cases • List and manage the complications • Advise the clients for follow-up • Describe the importance of record-keeping 	<p>Nature and type of injectables</p> <p>Mode and duration of their action</p> <p>Advantages and disadvantages</p> <p>Indications and contra-indications</p> <p>Complications and their management</p>	<p>Lecturette</p> <p>Demonstrate of injection, syringes, needle</p> <p>Demonstrate counselling</p> <p>Demonstrate records & storage</p>	<p>Observation</p> <p>Watch or give injection under supervision</p>	<ul style="list-style-type: none"> • Different types of injectables • Blackboard • OHP 	<p>Observation</p> <p>Question & answers</p>

Day 8:**Lesson Plan – Norplant**

Intermediate Educational Objective:
implantation.

Student will be able to advise clients on norplant implantation and refer them to specific clinic for

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>A. At the end of the session the student should be able to:</p> <ol style="list-style-type: none"> 1. explain norplant as a contraceptive method 2. explain mode of action of norplant and its effectiveness 3. list advantages and disadvantages of norplant 4. describe how to take history 5. describe how to do physical examination needed for selection of client for implantation 6. list important laboratory investigation before doing implantation 7. describe implantation procedure 8. describe follow-up procedure 9. explain the management of minor complication 10. describe the implant removal procedure 	<ol style="list-style-type: none"> 1. Definition 2. Role of norplant as contraceptive method 3. Pharmacokinetics of norplant 4. Mode of action of norplant 5. Advantages and disadvantages of norplant 6. Steps of history taking of the client for norplant 7. Steps of physical examination 8. Hb% urine for routine and microscopy 9. Implantation procedure 10. Follow-up procedure 11. Management of minor complications and referral for the major one 12. Implant removal procedure with indications 	Teachers' talk in small group		<ul style="list-style-type: none"> • Blackboard • OHP • Norplant capsule • Model of arm • Poster 	<ul style="list-style-type: none"> • Participation of students • Question & answers

Lesson Plan – Norplant (Cont'd)

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>B. At the end of the session the student should acquire skills to do the following:</p> <ol style="list-style-type: none"> 1. Communicate with the client 2. Build rapport 3. Obtain consent paper signed by couple 4. assure client 5. take history of the client 6. physical examination of clients 7. refer to implantation clinic 	<ol style="list-style-type: none"> 1. Health care interview <ul style="list-style-type: none"> - interview planning - time - space - kinds of exchange - interview questions - terminating interview 2. Consent paper and obtain sign/ agreement from the couple 3. Assurance 4. Steps of history taking 5. Steps of physical examination 6. Procedure of referral 	<ol style="list-style-type: none"> 1. Demonstration 2. Role play 	<ol style="list-style-type: none"> 1. Observation 2. Practising 3. Individualised learning 	<ul style="list-style-type: none"> • Client • Students 	<p>Question & answers Methods</p>
<p>B. Should be able to describe the procedure of norplant implantation</p>	<p>Procedure of norplant implantation</p>	<ol style="list-style-type: none"> 1. Facilitator 2. Practical demonstration 	<p>Observer</p>	<p>Client</p>	

Day 9: Lesson Plan – Safe period, lactation, condoms, spermicides, coitus interruptus

Intermediate Educational Objective: Student will be able to advise clients about safe period as contraceptive procedure.

Session 1 – Safe period

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>A. At the end of the session the student should acquire knowledge of the following and be able to:</p> <ol style="list-style-type: none"> 1. explain safe period as a method of contraceptive 2. explain how safe period works as contraception 3. list advantages and disadvantages of safe period 4. describe how to produce menstrual chart and its use 5. describe follow-up procedure <p>B. Should be able to:</p> <ol style="list-style-type: none"> 1. communicate with the client 2. take history of the client 3. construct menstrual chart and explain to client 	<ol style="list-style-type: none"> 1. Definition of safe period 2. Physiology of safe period and its role as contraceptive 3. Advantages and disadvantages 4. Menstrual chart <ul style="list-style-type: none"> - definition - preparation - use 5. Follow up advice 	<p>Teachers' talk in small session (10 minutes)</p>		<ul style="list-style-type: none"> • Blackboard • OHP • Menstrual chart 	<p>Students participation</p> <p>Question & answers</p>
	<ol style="list-style-type: none"> 1. Health care interviewing 2. Steps of history taking 3. Menstrual chart and its use 	<p>Role play Demonstration (15 minutes)</p>	<p>Role play Students activity</p>	<p>Client</p> <p>Menstrual chart</p>	

Session 2- Lactation

Intermediate Educational Objective:

Student will be able to advise clients about lactation as a contraceptive method.

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>A. At the end of the session the student should acquire knowledge of the following and be able to:</p> <ol style="list-style-type: none"> 1. explain lactation as a method of contraception, & describe exclusive breast feeding 2. explain the amount of protection afforded by 'exclusive breast feeding' 3. describe the mode of action 4. list the advantages and disadvantages 5. describe the steps of history taking of breast feeding 6. describe the follow-up advice 7. explain the place of adopting additional method <p>B. Should have skill of the following and be able to:</p> <ol style="list-style-type: none"> 1. communicate with client 2. take history of breast feeding of the client 	<ol style="list-style-type: none"> 1. Physiology of lactation 2. Role of lactation as contraception 3. Advantages and disadvantages of lactation as contraceptive method 4. History taking of breast feeding 5. Follow-up measures 6. Place of adopting additional method 	Lecture in Small group session (10 minutes)		<ul style="list-style-type: none"> • OHP • Model breast + baby 	Participation Question & answers
	<ol style="list-style-type: none"> 1. Communication skill 2. Steps of history taking of breast feeding 	Role play (10 minutes)	Role play with peer group		Check list

Session 3 – Condom

Intermediate Educational Objective: Student will be able to advise the clients about the condom and its use.

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>A. At the end of the session the student should acquire knowledge of the following and be able to:</p> <ol style="list-style-type: none"> 1. explain condom as a method of contraception 2. describe its mode of action 3. list its advantages and disadvantages 4. describe the role of condoms in preventing STD/HIV infection. 	<ol style="list-style-type: none"> 1. Description of condom <ul style="list-style-type: none"> - materials 2. How it works as contraceptive 3. Advantages and disadvantages <ul style="list-style-type: none"> - follow-up 4. STD/HIV- AIDS 	Teachers' talk (lecture) to the students in small group sessions (10 minutes)		Condom	Students Participation Question & answers
<p>B. At the end of the session the student should acquire skill of the following and be able to:</p> <p>Explain what to tell about the use of condom to the client</p>	Use of condom	Demonstration of condoms and talk about the use (10 minutes)	Observation	<ul style="list-style-type: none"> • OHP 	Question and answer

Session 4 - Spermicide

Intermediate Educational Objective:

Student will be able to advise clients about the Spermicide

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>A. At the end of the session the student should acquire knowledge of the following and be able to: (10 minutes)</p> <ol style="list-style-type: none"> 1. explain spermicide as a method of contraceptive 2. describe the mode of action 3. list advantages and disadvantages 4. explain to the client how to use spermicide 	<ol style="list-style-type: none"> 1. Definition and varieties of spermicide 2. Mode of action 3. Advantages and disadvantages 4. Use of spermicide 	<p>Lecture in small group session</p> <p>(5 minutes)</p>		Spermicide	<p>Participation</p> <p>Question & answers</p>

Session 5 – Coitus Interruptus

Intermediate Educational Objective:

Student will be capable of advising a client about coitus interruptus

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>At the end of the session the student should be able to:</p> <ul style="list-style-type: none"> Describe the place played by coitus interruptus in reducing the fertility rate in the population Recognise from what a couple say that they are using coitus interruptus as a method of family planning Speak with clients about the method and describe its advantages and disadvantages, especially the failure rate 	<ol style="list-style-type: none"> Local terminology used to describe coitus interruptus Reasons for failure of the method Advantages and disadvantages 	<p>Small group teaching (10 minutes)</p>			

Day 10 & 11 **family planning**

Day visits

- **Management issues in**
- Organisation of a clinic
- Working as a member of a team
- Acting as a supervisor

Intermediate Educational objective:

Students will be able to identify management issues of family planning clinics & act as a supervisor.

Organisation -

Well organised family planning centre near the Medical College should be selected.

The head of the centre to be visited must be informed in writing about the objectives of the visit.

Transport facilities are needed.

Students must be grouped with team leaders to give the students experience of team membership and leadership.

Day 1: They will all visit the same centre but observe different activities in groups.

Day 2: The first half of the day will be spent in another centre. The second half will be at the Model Clinic for the preparation and presentation of report.

Lesson Plan

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<p>A. At the end of the session the student should be able to:</p> <ol style="list-style-type: none"> 1. List characteristics of a good Manager/ Team Leader 2. identify weaknesses of a bad Manager/ Team Leader 3. differentiate good management and poor management 4. identify management issues 	<ol style="list-style-type: none"> 1. Management issues 2. Leadership <ul style="list-style-type: none"> - strengths - weaknesses 	<p>Lecture in small group session before starting day visit</p> <p>Facilitator during day visit</p> <p>(Prepare check-list for students' use)</p>	<p>Observation</p> <p>Asking question to the managers</p> <p>Writing notes</p>	<ul style="list-style-type: none"> • OHP • Blackboard • Checklist 	

Day Visits (Cont'd)

Specific educational objectives	Contents	Methods		Aids	Assessment
		Teacher's role	Students' role		
<ol style="list-style-type: none"> 5. discuss organisational issues related to: <ul style="list-style-type: none"> - booking of patients, - record keeping, - signed consent forms, - prescription, and - follow-up procedure - issuing & administration of FP methods 6. describe a good referral procedure <p>B. Should acquire the necessary skill and be able to:</p> <ol style="list-style-type: none"> 1. write report on day visit 2. present in forum 	<ol style="list-style-type: none"> 3. Record keeping <ul style="list-style-type: none"> - booking - signed consent form - follow-up procedure 4. Referral procedure <ol style="list-style-type: none"> 1. Report writing 2. Presentation 	<p>Arrange observation of:</p> <ol style="list-style-type: none"> 1. reception and counselling 2. Record keeping <ul style="list-style-type: none"> - booking - consent - follow-up 3. Procedures in prescription & administration of Family Planning Methods 4. Referral procedures <p>Facilitator</p>	<p>Observation</p> <p>Asking question to the managers</p> <p>Writing notes</p> <p>Prepare a report on the organisation & management of the clinics.</p> <p>Presenting report in the forum.</p>		Check-list completion

Day 12:
Feedback

Assessment and

- (1) An OSCE will be held. Questions will be based on the educational objectives.
- (2) Feedback on performance will be given by different teachers
- (3) Students will provide the teacher with feedback on their perception of the course
- (4) Marks will be awarded for attendance,
General performance,
Team performance on report and presentation,
The O.S.C.E.

Marks will be sent to the students the week after the course.

4TH YEAR GYNAE AND ANTENATAL OUTPATIENT CLINIC

COMPONENT – THREE

2 weeks (12 sessions in the morning)

SESSION	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 1	<p>Introduction to Gynaecology and obstetrics</p> <p>(a) Commonly used definitions</p> <p>(b) Common diseases prevalent in the community</p> <p>(c) Vital statistics: birth rate, MMR, causes, prevention, perinatal mortality, live birth, still birth</p> <p>(d) Brief students on course objectives/ activities and student's cards.</p>	<p>At the end of the session student will demonstrate knowledge and understanding of:</p> <p>(a) common gynaecological & obstetrics terms, common disease of O &G that prevalent in the community</p> <p>(b) vital statistics</p> <p>(c) course objectives, activities and students continuous assessment card</p>	Lecture	<p>Participate</p> <p>Discussion</p> <p>Collect student assessment card</p>
Session 2	History taking (obstetric & Gynae history)	<p>Student will be able to:</p> <p>(a) Take history of an obstetric and a gynaecological case</p> <p>(b) Record the information on the history sheet</p>	Demonstration by teacher	<p>a) Practice by students in groups</p> <p>b) Practice by individual</p>

SESSION	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 3	Clinical examination (Obstetrical & Gynaecology)	(a) Perform obstetrical & gynaecological examination (i) General (ii) Abdominal	Demonstration by teacher	a) Practice by students in groups b) Individual case study using study guide
Session 4 & 5	(a) Diagnosis pregnancy, antenatal care and advice and advice. (b) Hyperemesis and minor ailments common in pregnancy.	(a) Collect appropriate clinical information by history taking and examination (b) Suggest appropriate investigation (c) Interpret and correlate the results of investigations with clinical findings for clinical diagnosis (d) To plan and rationalize the management	Case demonstration Tutorial	Participation by students Case study in groups
Session 6 to 11	Common out patient gynaecological problem Abdominal swelling, abdominal pain/ P.I.D., vaginal discharge, amenorrhea, menorrhagia, infertility.	-do- Counsel patient or her spouse or relative or hospitalization for any common gynaecological problems	Case demonstration Tutorial Demonstration Role play	Participation by students Case study in groups Role play Practice by students
Session 12	Assessment (Oral/ Clinical/ OSCE) & feedback			

5th YEAR ROUTINE OBSTETRICS

(COMPONENT – FOUR)

3 weeks – 18 sessions in the morning

SESSION	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 1 & 2	Ante-natal Care and Screening for high risk pregnancies	1. Interpret the findings obtained by history taking physical examination and investigation	Demonstration by a teacher	Practise by case study in groups
		2. Identify anaemia clinically		Case study by group
		3. Identify nutritional status	Lecture	Practice by students on individual cases
		4. Identify hypertension		-do-
		5. Counsel women on importance of	Demonstration by the teacher	Role play by students in small group
		(a) Regular antenatal care (b) Nutrition (c) Personal hygiene (d) Healthy life style during pregnancy (e) Breast feeding (f) Contraception	Role play by a teacher	Exercise with patient

SESSION	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 3 &4	Hypertensive disorders in pregnancy	(a) Collect appropriate clinical information by history taking and examination (b) Suggest appropriate investigation (c) Interpret and correlate the investigations data with clinical diagnosis (d) Plan and rationalize the management	Case demonstration by the teacher	Practise with problem solving exercise in tutorial
Session 5	Abnormal lie/ presentation (Breech)	-do-	-do-	-do-
Session 6	Multiple pregnancy & hydromnios	-do-	-do-	-do-
Sessions 7 & 8	Medical disorders Diabetes, Heart disease & others	-do-	-do-	-do-
Session 9	Rh isoimmunization/ Grand Multipara / BOH/ H/O / C/S	-do-	-do-	-do-
Session 10	Ante partum haemorrhage	-do-	-do-	-do-
Session 11	I.U.G.R.	-do-	-do-	-do-
Session 12 to 13	Puerperium & its complications	-do-	-do-	-do-

SESSION	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 14 to 16	Theatre Session Writing of preoperative orders, operation note, post operative order, observe common obstetric operations.	To write preoperative orders, operation notes, post operative orders	Demonstration by teacher	Write preoperative orders, operation notes, post operative orders Observe common obstetric operations
Evening Session	Clerk patients, observe labour room activities and emergency operations and practise skills that the students learned in the morning sessions			
Session 17	Assessment (Oral/ Clinical/ OSCE)			
Sessions 18	Feedback			

N.B. All students must submit 5 histories and fill up the assessment card.

5TH YEAR ROUTINE GYNAECOLOGY

(COMPONENT – FIVE)

3 weeks – 18 sessions in the morning

SESSION	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 1 & 2	Bleeding in early pregnancy Abortion, ectopic pregnancy, molar pregnancy including choriocarcinoma	(a) Collect appropriate clinical information by history taking and examination (b) Suggest appropriate investigation (c) Interpret and correlate the investigations data with clinical findings for clinical diagnosis (d) To plan and rationalize the management	Case demonstration by the teacher Arrange problem solving tutorial	Practise with problem solving exercise in tutorial Case study
Session 3 & 4	Abnormal uterine bleeding/ Amenorrhea	-do-	-do-	-do-
Session 5	Abdominal pain Pelvic inflammatory disease	-do-	-do-	-do-
Sessions 6	Abdomino-Pelvic swelling Ovarian tumour, Fibroid	-do-	-do-	-do-
Session 7 & 8	Infertility Causes, investigations and treatment	-do-	-do-	-do-
Session 9 & 10	Genital cancer Carcinoma Cervix, Endometrial Carcinoma	-do-	-do-	-do-
Session 11	Genital tract injuries Vesico vaginal fistula, recto vaginal fistula, third degree perineal tear, vaginal stenosis	-do-	-do-	-do-

SESSION	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Sessions 12 & 13	Fertility Control O.C.P, P.O.P, post-coital contraception , barrier and natural methods, I.U.D., T.O.P/ M.R.	Counsel clients on: Fertility Control O.C.P, P.O.P., post-coital contraception, barrier and natural methods, I.U.D., T.O.P./ M.R.	Demonstration by teacher Video Role play Tutorial	Role play Practise with the clients
Sessions 14 to 16	Theatre Session Pre-operative management, post-operative management To Observe common gynaecological operation	Write preoperative orders, operation notes, post operative orders	Demonstration by teacher	Write preoperative orders, operation notes, post operative orders Observe common gynaecological operations
Evening Session	Clerk patients, observe gynae ward activities and practise those had learned in the morning sessions			
Session 17	Assessment (Oral/ Clinical/ OSCE			
Sessions 18	Feedback			

N.B. All students must submit 5 histories and fill up the assessment card.

5TH YEAR/ EMERGENCY OBSTETRIC CARE (EOC) AND LABOUR ROOM

(COMPONENT – SIX)

2 weeks – 12 sessions in the morning

SESSION	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Session 1	Management of normal labour, partogram	Recognise the events of labour Plot the events on the partogram and interpret the graph Rationalise the use of analgesic Conduct normal labour	Arrange video show/ Demonstration on partograph Demonstration on conducting normal labour	a. Observe video show b. Observe teacher's demonstration c. Plotting on partograph by individual d. Conduction of labour under supervision
Session 2	Induction of labour	(a) Collect appropriate clinical information by history taking and examination (b) Suggest appropriate investigation (c) Interpret and correlate the investigations data with clinical findings for clinical diagnosis (d) Plan and rationalize the management	Demonstration by the teacher	Practise with problem solving exercise in tutorial
Session 3	Management of bleeding in early pregnancy	-do-	-do-	-do-
Sessions 4	Management of bleeding in late pregnancy	-do-	-do-	-do-
Session 5	Management of eclampsia	-do-	-do-	-do-
Session 6	Management of prolonged and obstructed labour/ ruptured uterus	-do-	-do-	-do-
Session 7	Management of retained plaenta & PPH	-do-	-do-	-do-
Session 8	Management of shock & sepsis	-do-	-do-	-do-
Session 9	Obstetric operations (C.S, Forceps & ventouse deliveries, craniotomy.)	Write preoperative orders, operation notes, post operative orders	Demonstration by teacher	Write preoperative orders, operation notes, postoperative orders Observe obstetric operations

SESSION	TOPIC	LEARNING OBJECTIVES	TEACHING METHOD	
			TEACHERS' ROLE	STUDENTS' ROLE
Sessions 10	Clinical Project work	Present a case in a small group or seminar	Allocate students the project works. At the outset of the labour room placement the students will be divided into sub groups and allotted with a common clinical problem.	They will collect data and information about etiology, diagnosis and management of the problem which will be presented by them during this session
Evening Session	Review sessions 1– 9:			
Session 11	Assessment (Oral/ Clinical/ OSCE			
Sessions 12	Feedback			

