MAHARASTRA UNIVERSITY OF HEALTH SCIENCES, NASHIK

III M.B.B.S.

MEDICINE

(i) **GOAL** :

The broad goal of the teaching of undergraduate students in Medicine is to have the knowledge, skills and behavioral attributes to function effectively as the first contact physician.

(ii) **OBJECTIVES** :

(a) **KNOWLEDGE** :

At the end of the course, the student shall be able to:

1. Diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, tropical and environmental diseases;
2. Outline various modes of management including drug therapeutics especially dosage, side effects, toxicity, interactions, indications and contra-indications;
3. Propose diagnostic and investigative procedures and ability to interpret them;
4. Provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required;
5. Recognize geriatric disorders and their management.

(iii) **SKILLS** :

At the end of the course, the student shall be able to:

1. develop clinical skills (history taking, clinical examination and other instruments of examination to diagnose various common medical disorders and emergencies;
2. refer a patient to secondary and/or tertiary level of health care after having instituted primary care;
3. perform simple routine investigations like hemogram, stool, urine, sputum and biological fluid examinations;
4. assist the common bedside investigative procedures like pleural tap, lumber puncture, bone marrow aspiration/ biopsy and liver biopsy.
A course of systematic instruction in the principles and practice of medicine, including medical disease of infancy;

a. Lecture - demonstrations, seminars and conferences in clinical medicine during the 3 years shall run concurrently with other clinical subjects.;
b. Instructions in comprehensive medical care;
c. Instructions in applied anatomy and physiology and pathology throughout the period of clinical studies;
d. Instructions in dietetics, nutrition and principles of nursing Medical and in simple ward procedure e.g. should be imparted during clinical concurrently.

iv) **Attitude**:

a. The teaching and training in clinical medicine must aim at developing the attitude in students to apply the knowledge & skills he/she acquires for benefit and welfare of the patients.

b. It is necessary to develop in students a sense of responsibility towards holistic patient care & prognostic outcomes.

c. Students should develop behavioural skills and humanitarian approach while communicating with patients, as individuals, relatives, society at large & the co- professionals.

**Curriculum for Theory Lecture series & Tutorials and LCD for General Medicine including Psychiatry, Tb. & Dermatology**

<table>
<thead>
<tr>
<th>TERM</th>
<th>DAY</th>
<th>TIME</th>
<th>LECTURES</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th</td>
<td>MON</td>
<td>8-9</td>
<td>20</td>
<td>Introduction to Medicine</td>
</tr>
<tr>
<td>5th</td>
<td>MON, FRI</td>
<td>8-9</td>
<td>15, 15</td>
<td>Infectious Diseases/Tropical diseases, Cardiovascular System</td>
</tr>
<tr>
<td>6th</td>
<td>TUE, THU, MON, TUE, SAT</td>
<td>8-9, 8-9, 8-9, 8-9, 8-9</td>
<td>15, 20, 20, 20, 15</td>
<td>GIT, Liver, Pan. + Chest + Miscellaneous + TB + Psychiatry + Skin</td>
</tr>
<tr>
<td>7th</td>
<td>FRI, THU, FRI, MON</td>
<td>8-9, 12-1, 2-4, 2-3</td>
<td>15, 15, 30, 20</td>
<td>Neurology, Haematology/Haemato-oncology, Tutorials + Skin / STD</td>
</tr>
<tr>
<td>8th</td>
<td>TUE, THU, TUE, WED</td>
<td>8-9, 8-9, 2-4, 2-4</td>
<td>20, 20, 40, 40</td>
<td>Endo + Misc + Genetics ( 3 Lectures.), Nephro. +Clinical Nutrition + Tutorial Medicine, Skin, Tb, Psychiatry, Tutorial</td>
</tr>
<tr>
<td>9th</td>
<td>TUE, MON</td>
<td>12-1, 2-4</td>
<td>15, 30</td>
<td>LCD Medicine (10) Skin 1 Psychiatry (1) Tb(1) LCD Medicine (7)</td>
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The above timetable is general outline to guide the planning of curriculum at college level. However, flexibility may be exercised to the extent that there may be
minor re-scheduling of course contents day-wise or term-wise. It must be ascertained that the course contents are covered fully and total hours allotted for the subjects are effectively implemented.

Note: - These are suggested time tables. Adjustments where required, depending upon the availability of time and facility, be made.

**SYLLABUS**

(General Instruction: 1) **The Lectures** Stated below shall cover knowledge about applied aspects of basic & allied sciences, practical approaches in the management of patients in the outdoor & indoor settings as well as their management in the community. Special emphasis shall be placed on preventive aspects, National Health Programs & dietetics & nutrition.)

2) **During practical teaching & training in wards**, OPD & field works proper emphasis should be given to common health problems in addition to other diseases. Emphasis should be given to learning of tacit knowledge & skills in diagnosis & interpretation of finding & Lab. data.

**INTRODUCTION TO MEDICINE : 4 TH SEMESER**

Lect.01. : History of Medicine.

Lect.2/3. : Concept & objectives of history taking. Diagnosis, Provisional Diagnosis, Differential diagnosis.

Lect.04. : Symptomatology of Cardiovascular Diseases.

Lect.05. : Symptomatology of Respiratory diseases.

Lect.06. : Symptomatology in Nervous system.

Lect.07. : Symptomatology in Gastrointestinal and Hepatobiliary diseases.

Lect.08. : Approach towards a patient with Fever / Oedema.


Lect.10. : Approach towards a patient with Lymphadenopathy.

Lect.11. : Investigations ( Non- Invasive )

X-rays, USG
C.T. / M.R.I. Scan
Secretions examinations
Peripheral smear
LECT. 12.: Investigations (Invasive)
Bone marrow
F.N.A.C.
Liver biopsy
Lymph node biopsy
Endoscopies
Lumber puncture.

LECT. 13/14.: Review of common diseases in India.

LECT. 15/16.: Revision.

LECT. 17.: Examination.

LECT. 18/20: Buffer.

INFECTIOUS DISEASES: 5TH SEMESTER

LECT. 01: Introduction.
Infections – types, Modes of Infection transmission, Incubation period
Host defenses, Immunity & Immunization & Management including Prevention

LECT. 02: Viral hepatitis.

LECT. 3/4/5: Tetanus/ Diphtheria

LECT. 6/7: Malaria

LECT. 08: Rabies

LECT. 09: Typhoid fever

LECT. 10/11: Gastroenteritis

LECT. 12: Plague / Dengue

LECT. 13/14: (HIV) Infection & AIDs.

LECT. 15.: Examination.

Note: The course contents in above topics should also cover applied aspects in basic sciences like Anatomy, Physiology, Bio-Chemistry, Micro- Biology, Pharmacology, Pathology, FMT while giving training on Clinical features, investigations, Diagnosis, D/D treatment & prevention.
CARDIOVASCULAR SYSTEM : 5 TH SEMESTER

Lect.01 : Introduction
Functions / anatomy / physiology and its applications
Various terminologies used

Lect.2/3: Methods of evaluation
Non - invasive
Invasive

Lect.04 : Arrhythmias
Concept & Classification
Presentation
Diagnosis
Pharmacotherapy in short

Lect.05: Cardiac arrest.

Lect.06: C.C.F.
Types
Presentations
Pathophysiology
Management

Lect.07: C.H.D.
Aetiology and classification
CHD in adults & its importance

Lect.08: Rheumatic fever

Lect.09: Presentation and haemodynamics of various Valvular lesions including investigations, Diagnosis, D/D treatment & Prevention.

Lect.10: Infective endocarditis

Lect.11/12: C.A.D, (Coronary artery disease)

Lect.13: Pericardial diseases and cardiomyopathy

Lect.14: Hypertension

Lect.15: Examination.
Lect. 01: Introduction to GIT
   Oral Cavity
   Ulcers
   Bleeding
   Pigmentation
   Oral manifestation of systemic diseases

Lect. 2/3: Oesophagus
   Inflammation, Dysphagia

Lect. 4/5: Stomach
   Peptic ulcers
   Aetiopathogenesis
   Clinical features
   Investigations
   D/D and management
   Acute and Chronic gastritis

Lect. 6/7. Small and large intestine diseases
   Secretions & functions
   MAS Mal – absorption syndrome
   Tuberculosis of Abdomen

Lect. 08: Ulcerative colitis & Crohn’s disease

Lect. 09: Liver.
   Introduction
   LFT & their interpretation

Lect. 10/11: Hepatitis - Acute & Chronic

Lect. 12/13: Cirrhosis of liver

Lect. 14: Gall bladder diseases

Lect. 15/16: Pancreas
   Functions
   Investigations
   Acute and Chronic pancreatitis
   Manifestation and D/D & treatment.

Lect. 17/18: Misc. & Revision.

Lect. 19: Examination.
RESPIRATORY SYSTEM : 6 TH SEMESTER

Lect.01: Applied Anatomy and physiology of R.S.
Lect.02: P.F.T. (Pulmonary Function Testing)
Lect.03: Resp. Infection- Pneumonias.
Lect.04: Chronic bronchitis and emphysea
Lect.5/6: Bronchiectasis and lung abscess.
Lect.07: Bronchial asthma
Lect.08: Malignancies
Lect.09: Mediastinum and its disorders.
Lect.10: Pleural disease - Emphasis on pneumothorax
Lect.11: Pleural effusion.
Lect.12: Occupational lung disease. Its concept and short review
Lect.13: Revision - Fungal & Parasitic diseases
Lect. 14: Respiratory emergencies & Introduction to mechanical ventilators

Collagen Vascular Disorders

Lect.1: Allergy - Concept & hypersensitity, Autoimmunity
Lect.2: Collagen disease.
Lect.3: Rheumatoid arthritis
Lect.4: Sero negative arthritis
Lect.5: Revision HIV, Alcohol related disease
Lect.6: Examination
TUBERCULOSIS : 6 TH SEMESTER

Lect.01: History and introduction
Lect.2/3: Pathogenesis and pathology
Lect.04: Role of host related factors
Lect.05: Microbiology of AFB
Lect.06: Clinical features of pulmonary tuberculosis and its investigations
Lect.07: Anti – Tubercular drugs
Pharmacology & Schedules of treatment.
Lect.8/9: Resistant tuberculosis
DOTS
Prophylaxis - Drugs /BCG/ Tuberculin test.
HIV & TB.
Lect.10: Extra - pulmonary tuberculosis
Plural effusion
Empyema
Others
Lect.11/12: Revision
Lect.13: Examination

NEUROLOGY: 7 TH SEMESTERS

Lect.01: Introduction
Applied anatomy & physiology
History taking in neurology
Lect.02: Investigations
Lect.3/4: CVD (Cerebro Vasular Disease)
Types & its differential diagnosis
Predisposing factors
Diagnosis and management
Lect.05: S.O.L. (Space Occupying Lesions)
Lect.06: Encephalitis and meningitis
Lect.07: Epilepsy
Lect.08: Cerebellar syndrome
Lect.09: Parkinsonism

Lect.10: Peripheral neuropathy

Lect.11: Muscle disorders in brief

Lect.12/13: Spinal cord disorders

Lect.14: CSF
  - Formation and absorption
  - Status in various disorders

Lect.15: Examination.

**HEMATOLOGY: 7 TH SEMESTER**

Lect.01: Introduction
  - Cell line of hemopoisis
  - Stimulating factors
  - Physiology and Anatomy of RBCs.

Lect.02: Anemias
  - Introduction
  - Classification
  - Symptoms & signs in general
  - Basic investigations & its interpretation

Lect.03: Microcytic hypochromic anaemias
  - Fe Kinetics
  - C/F, investigations of Fe deficiency.
  - Treatment of Fe deficiency.
  - D/D - Sideroblastic / thallasemic.

Lect. 04: Macrocytic anaemias
  - Kinetics of B-12 and Folic acid
  - C/F, investigations and management of B-12 / FA deficiency.

Lect.05: Anaemias (continued)
  - Brief of Chronic infections and inflammation
  - Hemolytic anaemias

Lect.06: Hemoglobinopathies
Lect.07: Hypoplastic / Aplastic anemia
  Definition
  Classification
  Diagnosis and management

Lect.08: Introduction to WBCs.
  Agranulocytosis - Aetiology & its significance
  Leukemias ( AML, ALL, CML, CLL)

Lect.09: Management of leukemia

Lect.10: Lymphomas
  Hodgkin’s disease / NHL (Non-Hodgkin’s lymphoma)

Lect.11: Approach to a patient with bleeding disorders
  Recognition
  Investigations
  Physiology of Platelets
  Therapy

Lect.12: Blood groups & Blood Transfusion & Component Therapy

Lect.13-14: Revision

Lect. 15: Examination.

ENDOCRINOLOGY : 8 TH SEMESTER

Lect. 01: Introduction - Hormones
  Concept
  Types
  Action
  Endocrine system
  General
  Control

Lect.2/3: Pituitary
  Anatomy
  Regulation
  Disorders of Ant. Pituitary
  Acromegaly
  A.G. Syndrome
  Disorders of Post. Pituitary
  Hypopituitarism

Lect.4/5: Thyroid
  Anatomy
Regulation
Goiter
Hypothyroid state & hyperthyroid state
Classifications
Management

Lect.6/7: Adrenal gland
Anatomy
Regulation
Addison’s & Cushing syndrome
Recognition
Investigations
Management
Pheocromocytoma

Lect.08: Vit. D. Metabolism.
Ca. Metabolism and its relations to parathyroid
Diagnosis & management of related disorders.

Lect.9/10: Diabetes Mellitus

Lect.11: FSH < H. Oestrogens Progesterone’s
Significance
Disorders
Its recognition and diagnosis
Management

Lect.12: Multiple endocrine-syndrome and paraneoplastic syndrome Overview.
Diabetes incipidus.

Miscellaneous

Lect.13/14 : Poisoning
Suicidal / Homicidal / Accidental
Chemical / Biological / Corrosives / Drugs
Concepts of management
Optimum Barbiturate
DDT
Organophosphorus
Lect.15: Hyperpyrexia and Heat exhaustion
   Aetiology
   Pathophysiology
   C / F. Types
   Management
   Preventive measures

Lect.16 : Electrical injury
   Types
   Manifestations
   Management
   Lightening

Lect.17: Shock
   Types
   Pathophysiology / Complications
   Management

Lect.18/19: Revision

Lect.20: Examination

NEPHROLOGY, NUTRITION : 8 TH SEMESTER

NEPHROLOGY :

Lect.01: Anatomy & Physiology of Urinary system

Lect.02: R.F.T. (Renal Function Tests)

Lect.03: Acute Glomerulonephropathy

Lect.04: Chronic Glomerulonephropathy

Lect.05: Infections of urinary system.

Lect.06: Nephrotic syndrome

Lect.07: Approach towards common problem
   i. Proteinuria
   ii. Hematuria
   iii. Renal colics
Lect.08: Acute & Chronic renal failure
Lect.09: Dialysis - Diet - Drugs. In renal failure
Lect.10: Revision
Lect.11: Examination

**Genetics (3 lectures)**

Lect.1: Introduction
Lect.2: Common genetic disorders
Lect.3: Application of Genetic Engineering in Medicine

**NUTRITION:**

Lect.12: Protein energy malnutrition.
Lect.13/14: Vitamin deficiency state
  - Scurvy / Beribery / Pellegra / Vit.A
Lect.15: Obesity / Asthenia
  - Diagnosis
  - “Complications and management
Lect.16: Revision
Lect.17: Examination.

**Introduction of “Brain Death and Organ Donation” topic in subjects of Physiology, Preventive & Social Medicine, Psychiatry, Medicine & Surgery**

Recommended Books:

1. Hutchinson’s Clinical Methods by Hunter and Bomford,
2. The Principles and practise of Medicine - Sir Stanley Davidson
3. Text book of Medical Treatment - Dunlop and Alstead.
6. API Text Book of Medicine.
7. Reference Book (Clinical Medicine) : "Clinical Examination in Medicine": Author: Dr. A. P. Jain
   2) Dr. V.R. Joshi
   3) Dr. Rajesh G. Sainani
SKIN

DERMATOLOGY / STD/ LEPROSY

Goals:

The aim of teaching the Undergraduate students in Dermatology, S.T.D. and Leprosy is to impart such knowledge and skills that may enable him to diagnose and treat common ailments and to refer rare diseases or complications and unusual manifestations of common diseases to the specialist.

OBJECTIVES:

Knowledge:

At the end of the course of Dermatology, Sexually Transmitted Diseases & Leprosy the student shall be able to:

1. Demonstrate sound knowledge of common diseases, their clinical manifestations including emergent situations and of investigative procedures to confirm their diagnosis.
2. Demonstrate comparative knowledge of various modes of topical therapy.
3. Demonstrate the mode of action of commonly used drugs, their doses, side effects / toxicity, indications and contraindication & interactions.
4. Describe commonly used modes of management including the medical & Surgical procedures available for the treatment of various diseases and to offer a comparative plan of management for a given disorder.

Skills:

The student shall be able to:

1. Interview the patient, elicit relevant and correct information and describe the history in a chronological order:
2. Conduct clinical examination, elicit and interpret physical findings and diagnose common disorders and emergencies:
3. Perform simple, routine investigative and laboratory procedures required for making the bed-side diagnosis, especially the examination of scrapings for fungus, preparation of slit smears and staining for AFB for leprosy patients and for STD cases:
4. Take a skin biopsy for diagnostic purposes:
5. Manage common diseases recognizing the need for referral for specialized care, in case of inappropriateness of therapeutic response.
Structures and functions of Skin and its appendages

Pruritus

Infections (Bacterial, Chlamidia, Mycoplasma, Fungal & Viral)

Infestations (Ecto and Endoparasites)

Nutritional disorders

Allergic Disorders

Leprosy

STD

HIV & Skin

Papulesquamous disorders

Collagen Vascular Disorders

Pigmentory disorder

Drug reactions.

Chest

TUBERCULOSIS AND RESPIRATORY DISEASES:

(i) GOAL:

The aim of teaching the undergraduate student in Tuberculosis and Chest Diseases is to impart such knowledge and skills that may enable him/her to diagnose and manage common ailments affecting the chest with the special emphasis on management and prevention of Tuberculosis and especially National Tuberculosis control programme.

(ii) OBJECTIVES:

(a) KNOWLEDGE:

At the end of the course of Tuberculosis and Chest diseases, the student shall be able to:

1) demonstrate sound knowledge of common chest diseases, their clinical manifestations, including emergent situations and of investigative procedures to confirm their diagnosis;

2) demonstrate comprehensive knowledge of various modes of therapy used in treatment of respiratory diseases;
3) describe the mode of action of commonly used drugs, their doses, side-effects/toxicity, indications and contra-indications and interactions.;

4) describe commonly used modes of management including medical and surgical procedures available for treatment of various diseases and to offer a comprehensive plan of management inclusive of National Tuberculosis Control Programme.

(b) **SKILLS**:

The student shall be able to:

1) interview the patient, elicit relevant and correct information and describe the history in chronological order;
2) conduct clinical examination, elicit and interpret clinical findings and diagnose common respiratory disorders and emergencies;
3) perform simple, routine investigative and office procedures required for making the bedside diagnosis, especially sputum collection and examination for etiologic organisms especially Acid Fast Bacilli (AFB), interpretation of the chest x-rays and respiratory function tests;
4) interpret and manage various blood gases and PH abnormalities in various respiratory diseases.
5) Manage common diseases recognizing need for referral for specialized care, in case of inappropriateness of therapeutic response;
6) Assist in the performance of common procedures, like laryngoscopic examination, pleural aspiration, respiratory physiotherapy, laryngeal intubation and pneumo-thoracic drainage/aspiration.

(c) **INTEGRATION:**

The broad goal of effective teaching can be obtained through integration with departments of Medicine, Surgery, Microbiology, Pathology, Pharmacology and Preventive and Social Medicine.

Lect. 01: History and introduction.

Lect. 2/3: Pathogenesis and pathology.

Lect. 04: Role of host related factors.

Lect. 05: Microbiology of AFB.

Lect. 06: Clinical features of pulmonary tuberculosis.

Lect. 07: Anti-tuberculous drugs
- Pharmacology & schedules of drug therapy.

Lect. 8/9: Resistant tuberculosis
- DOTS
- Prophylaxis - Drugs / BCG / Tuberculin test.
- HIV & TB.
Lect 10 Extra - Pulmonary tuberculosis
   Pleural Effusion
   Others.

Lect 11/12: Revision

Lect. 13: Examination.

**Respiratory System:**

1. Applied anatomy & Physiology of R.S.
2. Lung function tests
3. Respiratory infections, pneumonias, fungus,
5. Bronchial Asthma.
7. Mediastinum & its disorders.
8. Pleural Diseases
9. Occupational Lung Disease
10. Respiratory emergencies.

**Lecture cum Demos (Resp system)**

1. Lung function test and blood gas Analysis and Resp. alkalosis & Acidosis.
2. Chest bronchios emphysema
3. Suppurative lung diseases
4. Bronchogenic carcinoma & other malignancies with Mediastinal obstruction
5. Pleural disease - pneumothorax, pyopneumothorax, Pleural

**L.C.D. In T.B.**

1. Haemoptysis
2. Drug resistance
3. TB & HIV
Psychiatry

(i) **GOAL** :

The aim of teaching of the undergraduate student in Psychiatry is to impart such knowledge and skills that may enable him to diagnose and treat common Psychiatric disorders, handle Psychiatric emergencies and to refer complications/ unusual manifestation of common disorders and rare Psychiatric disorders to the specialist.

(ii) **OBJECTIVES** :

(a) **KNOWLEDGE** :

At the end of the course, the student shall be able to:

1. comprehensive nature and development of different aspects of normal human behaviour like learning, memory, motivation, personality and intelligence;
2. recognize differences between normal and abnormal behaviour;
3. classify psychiatric disorders;
4. recognize clinical manifestations of the following common syndromes and plan their appropriate management of organic psychosis, functional psychosis, schizophrenia, affective disorders, neurotic disorders, personality disorders, psychophysiological disorders, drug and alcohol dependence, psychiatric disorders of childhood and adolescence;
5. describe rational use of different modes of therapy in psychiatric disorders.

(b) **SKILLS** :

The Student shall be able to:

1) interview the patient and understand different methods of communications in patient-doctor relationship;
2) Elicit detailed psychiatric case history and conduct clinical examination for assessment of mental status;
3) Define, elicit and interpret psycho-pathological symptoms and signs;
4) Diagnose and manage common psychiatric disorders;
5) Identify and manage psychological reactions and psychiatric disorders in medical and surgical patients in clinical practice and in community setting.

(c) **INTEGRATION** :

Training in Psychiatry shall prepare the students to deliver preventive, promotive, curative and re-habilitative services for the care of patients both in the family and community and to refer advanced cases for a specialized Psychiatry / Mental Hospital. Training should be integrated with the departments of Medicine, Neuro-Anatomy, Behavioral and Forensic Medicine.

4th or 5th semester 5 lectures
2. Motivation (including) frustration, conflicts etc.) Emotion (including mind-body relationship)

3. Learning (different types) memory (Types of memory, cause of forgetting etc.)
4. Intelligence, emotional Quotient including M.R. and sifted child.
5. Personality-Different types with mental mechanisms
6. Difference between normal and abnormal behaviour. Doctor-Patient relationship and communication skills

**In 8th & 9th Semester remaining 15 lectures.**

2. Schizophrenia including drugs and rehabilitation.
3. Affective disorders including pharmacotherapy
5. Anxiety disorders-Generalised anxiety, disorders, panic disorders.
7. Somatoform disorders.
8. Alcohol dependence
9. Psycho-Physiological disorders.
10. Scholastic problems.
12. Sexual disorders.
14. Psychotherapies including behaviour therapy.

**Introduction of “Brain Death and Organ Donation” topic in subjects of Physiology, Preventive & Social Medicine, Psychiatry, Medicine & Surgery**
Paediatrics

Paediatric including Neonatology

The course includes systematic instructions in growth and development, nutritional needs of a child, immunization schedules and management of common diseases of infancy and childhood including scope for Social Paediatrics and counseling.

(i) GOAL :

The broad goal of the teaching of undergraduate students in Paediatrics is to acquire adequate knowledge and appropriate skills for optimally dealing with major health problems of children to ensure their optimal growth and development.

(ii) OBJECTIVES :

(a) KNOWLEDGE :

At the end of the course, the student shall be able to:

1. Describe the normal growth and development during foetal life, neonatal period, childhood and adolescence and outline deviations thereof;
2. Describe the common paediatric disorders and emergencies in terms of Epidemiology, aetiopathogenesis, clinical manifestations, diagnosis, rational therapy and rehabilitation;
3. Age related requirements of calories, nutrients, fluids, drugs etc, in health and disease;
4. Describe preventive strategies for common infectious disorders, malnutrition, genetic and metabolic disorders, poisonings, accidents and child abuse;
5. Outline national Programmes relating to child health including immunization Programmes.

(b) SKILLS :

At the end of the course, the student shall be able to:

(2) take a detailed paediatric history, conduct an appropriate physical examination of children including neonates, make clinical diagnosis, conduct common
bedside investigative procedures, interpret common laboratory investigation results and plan and institute therapy.

(3) Take anthropometric measurements, resuscitate newborn infants at birth, prepare oral rehydration solution, perform tuberculin test, administer vaccines available under current national programmes, perform venesection, start an intravenous saline and provide nasogastric feeding:

(4) Conduct diagnostic procedures such as a lumbar puncture, liver and kidney biopsy, bone marrow aspiration, pleural tap and ascitic tap;

(5) Distinguish between normal newborn babies and those requiring special care and institute early care of all new born babies including care of preterm and low birth weight babies, provide correct guidance and counseling in breast feeding;

(6) Provide ambulatory care to all sick children, identify indications for specialized / inpatient care and ensure timely referral of those who require hospitalization:

(C) INTEGRATION:

The training in paediatrics should prepare the student to deliver preventive, promotive, curative and rehabilitative services for care of children both in the community and at hospital as part of team in an integrated form with other disciplines, e.g. Anatomy, Physiology, Forensic Medicine, Community Medicine and Physical Medicine and Rehabilitation.

LIST OF LECTURE/ SEMINARS

Lectures : 3rd / 4th Semester :

1. Introduction of Paediatrics.
3. Examination of Children.
4. Normal Growth
5. Normal Development.
6. Introduction to newborn and normal newborn baby.
7. Temperature regulation in newborn.
8. Breast feeding and lactation management.
9. Infant and child feeding ( include complimentary feeding)
11. Immunization.
Lecturers : 7th / 8th / 9th Semester :

1. Birth Asphyxia
2. Low Birth Weight Babies.
4. Jaundice in newborn.
7. PEM and its management.
8. Vitamin and micronutrient deficiencies.
10. Acute diarrhoea.
12. Congestive heart failure - diagnosis and management.
15. Hypertension in children.
17. Bronchial asthma.
18. Nephrotic syndrome
19. Acute glomerulonephritis and hematuria
21. Chronic liver disease including ICC.
22. Haemolytic anaemia including thalassemia.
23. Leukaemias.
24. Bleeding and coagulation disorders.
25. Seizure disorders.
26. Cerebral Palsy.
27. Common exanthematous illness.
28. Childhood tuberculosis

Other Lectures to be covered :

1. Fluid and electrolyte balance -pathophysiology and principles of Management.
2. Acid-base disturbances - pathophysiology and principles of management.
3. Adolescent growth and disorders of puberty.
5. Acute respiratory infections, Measles, Mumps, Chicken pox
6. Other childhood malignancies.
7. Coagulation disorders - Haemophilia
8. Mental retardation.
9. Approach to a handicapped child.
10. Acute flaccid paralysis.
12. Meningitis.
15. HIV infection.
16. Malaria.
17. Neurocysticercosis.
18. Enteric fever.
19. Immunization.
20. Paediatric prescribing.

**Integrated Seminar Topics:**

Convulsions
Coma
PUO
Jaundice
Portal hypertension
Respiratory failure
Shock
Rheumatic Heart Disease
Hypertension
Diabetes mellitus
Hypothyroidism
Anemia
Bleeding
Renal failure
Tuberculosis
Malaria
HIV infection
Neurocysticercosis
Perinatal asphyxia (with obstetrics)
Intrauterine growth retardation (with obstetrics)

**Introduction of “Integrated Management of Neonatal And Childhood Illness”**

**Topic in MBBS Syllabus**
**Preventive and Social Medicine / Community Medicine**  
*(PSM)*

A. The teaching of Social & Preventive Medicine shall place throughout the teaching period.

B. Field experience in rural health is included in pre-clinical as well as during clinical period.

C. During the students attendance at various departments which is now required under medicine and surgery, such as infectious diseases, T.B., Leprosy, V.D. etc. emphasis shall be laid as much on the preventive as on the clinical and Therapeutic aspects of these diseases.

D. In addition to the teaching undertaken by the department of Social & Preventive Medicine, a joint programme with other departments is essential in order to give the students a comprehensive picture of man, his health and illness.

E. Stress shall be laid on national programmes, including those of control of communicable diseases and family planning and health education.

F. An epidemiological units as an integrate part of every hospital in order to achieve a comprehensive study disease by the students should be established.

G. The objective of the internship shall be clearly defined and that a proper training programme is oriented for this period. Objectives, and the methods by which the internship could be made into a satisfying and fruitful experience. Sharpening and for planning in this phase of education shall be done.

H. As regards the qualifications of the teachers it is highly important that All teachers in Social and A preventive Medicine should have as far as possible had adequate administrative experience in addition to the teaching experience. They should also be encouraged to acquire skills in clinical subject specially related to community medicine.

I. Practical Skills: Due stress shall be laid on the students acquiring practical skill in the following procedures.

**Community Medicine including Humanities**  
*(Preventive and Social Medicine)*

(Phase I,II and Part 1st of Phase III M.B.B.S.)

**GOALS:**

The broad goal of the teaching of undergraduate students in community medicine is to prepare them to function as community and first level physicians in accordance with the institutional goals.
OBJECTIVES:

Knowledge:
At the end of the course the student shall be able
- Explain the principles of sociology including demographic population dynamics.
- Identify social factors related to health, disease and disability in the context of urban and rural societies.
- Appreciate the impact of urbanization on health and disease.
- Observe and interpret the dynamic of community behaviours.
- Describe the elements of normal psychology and social psychology.
- Observe the principles of practice of medicine in hospital and community settings.
- Describe the health care delivery systems including rehabilitation of the disabled in the country.
- Describe the National Health Programmes with particular emphasis on maternal and child health programmes, family welfare planning and population control.
- List the epidemiological methods and techniques.
- Outline the demographic pattern of the country and appreciate the roles of the individuals, family, community and socio-cultural milieu in health and disease.
- Describe the health information systems.
- Enunciate the principles and components of primary health care and the national health policies to achieve the goal of “Health for all”.
- Identify the environmental and occupational hazards and their control.
- Describe the importance of water and sanitation in human health.
- To understand the principles of health economics, health administration, health education in relation to community.

Skills:
At the end of the course, the student shall be able to make use of
- The principles and practice of medicine in hospital and community settings and familiarization with elementary practices.
- Use the Art of communication with patients including history taking and medico social work.
- Use epidemiology as a scientific tool to make rational decisions relevant to community and individual patient intervention.
- Collect, analyse, interpret and present simple community and hospital base data.
- Diagnose and manage common health problems and emergencies at the individual, family and community levels keeping in mind the existing health care resources and in the context of the prevailing socio-culture beliefs.
- Diagnose and manage common nutritional problems at the individual and community level.
- Plan, implement and evaluate a health education programme with skill to use simple audio-visual aids.
- Interact with other members of the health care team and participate in the organization of health care services and implementation of national health programmes.

Integration:
Develop capabilities of synthesis between cause of illness in the environment or community and individual health and respond with leadership qualities to institute remedial measures for this.

**Course Content:**

Total hours of teaching in community medicine and Humanities are 376. The distribution of them shall be as follows.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Semester</th>
<th>Theory</th>
<th>Practical Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>I &amp; II</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>II</td>
<td>III &amp; IV</td>
<td>68</td>
<td>132</td>
</tr>
<tr>
<td>III Part I&lt;sup&gt;st&lt;/sup&gt;</td>
<td>VI &amp; VII</td>
<td>50</td>
<td>66</td>
</tr>
</tbody>
</table>

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**Community Medicine (P.S.M.)**

**List of theory lectures**

**Phase I (1<sup>st</sup> and 2<sup>nd</sup> semester) 30 Hours**

1. Introduction – Evolution of Community Medicine.
4. Health Care Delivery system in India – Urban and Rural.
5. Demography, Demographic cycle, Population trends – World and India.
6. Fertility and factors affecting it.
7. Family welfare and Population control.
13. Hospital Management.
   - Constituents of food.
   - Food and food groups.
   - Diet planning and recommended dietary allowances.
   - Nutritional diseases.
   - Iodine deficiency disorders.
   - Diseases due to vitamin and mineral imbalance
   - Toxins in the food.
   - Assessment of Nutritional status.
   - Examination

**Phase II – (3<sup>rd</sup> and 4<sup>th</sup> Semester) 68 Hours**

**General Epidemiology**

- The concepts of disease.
- Natural history of disease.
- Epidemiological triad.
- Dynamics of diseases transmission.
• Concept of disease control.

**Epidemiology**

- Definition, types, measurements in epidemiology, epidemiological studies, and clinical trial, investigation of an epidemic.
- Uses of epidemiology.
- Screening for disease.
- Disinfection, sterilization and control of Hospital acquired infections.
- Immunity.

**Environmental health**

- **Introduction to environment health.**
  - Water in relation to health and disease.
  - Air pollution and ecological balance.
  - Housing and health.
  - Effects of radiation on human health (Ionizing, Non-ionizing & Nuclear warfare).
  - Effects of Noise on human health.
  - Meteorological environment.
  - Solid waste disposal.
  - Disposal of hospital waste.
  - Liquid waste disposal.

**Medical entomology**

Arthropods of medical importance and their control.

**Biostatistics (Theory and Practical)**

- Introduction and uses.
- Data- Types, Collection and Presentation.
- Centering constants.
- Measures of Variation.
- Normal distribution.
- Sampling methods and Sampling variability.

**Tests of significance.**

- SE of difference between two means.
- SE of difference between two proportions.
- $X^2$ test. (Chi-square)
- Students ‘t’ test
  - Paired.
  - Unpaired.
- Statistical fallacies.

**Computers in Medicine**

There use at all the stages to be demonstrated. The students should use computers in analysis and presentation of data.

**Epidemiology of communicable diseases.**

- Air borne infections.
- Exanthematous fevers.
- Chicken pox, Rubella, and Measles.
- Factors responsible to eradicate small pox.
- **Influenza and ARI.**
- Diphtheria and Pertussis.
- Tuberculosis.
- Faeco-oral infections.
  - Poliomyelitis.
  - Hepatitis.
  - Enteric Fever and Cholera
  - Bacillary and Amoebic dysentery.
- Soil transmitted Helminths.
- Tetanus
- Rabies and other Viral Zoonotic disease.
- Leprosy.
- Leprosy.
- Malaria
- Filariasis.
- Arthropod borne viral diseases.
- Sexually transmitted diseases and their control.
- A.I.D.S.

Examinations at the end of 3rd and 4th semester.

Phase III (6th and 7th Semester)  
50 hrs.

(Phase III (6th and 7th Semester) includes tutorials also.)

- Community development programmes and multisectoral development.
- Comprehensive medical care and Primary health care.
- National Health Policy.
- Maternal and Child Health care.
- Epidemiology of Non-communicable diseases.
- Occupational health.
- Problems of adolescence including Drug dependence.
- Geriatrics
- Management information system.
- Mental health.
- Genetics in public health.
- Health planning and management.
- National Health Programmes.
- International health and Voluntary Health Agencies. Tutorials.
- Examination at the end of 6th and 7th semester.

Practicals

Phase I (1st And 2nd semester)  - 30 hours.

Field visit-

Every Medical College should have adequate transport facilities to take medical undergraduate for field visits. In the phase I total 15 visits, each of 2 hours duration or total 10 visits – each of 3 hours duration (depending on distances ) are to be planned by the departments of community medicine. The broad outline of place for educational field visits is given below.
Hospital visits (O.P.D., Casualty, Immunization clinic, different wards, Kitchen, FW Centre, PPP, Blood Bank, Sterilization section, Infectious disease ward, Minor operation theatre, etc.)

- Rural Health Training Centre.
- Primary Health Centre.
- Urban Health Centre.
- District Health Office (DHO).
- District Training Team (DTT)/IEC Bureau.
- District Tuberculosis Centre.
- Public Health Laboratory.
- District Malaria Office.
- Remand Home.
- Rehabilitation Centre.

**III rd Semester, 1st Clinical Posting** - 66 hours.

Lecture – Cum – Demonstration, at appropriate places

<table>
<thead>
<tr>
<th>SN</th>
<th>Topic</th>
<th>Demonstration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Visit to Urban / Rural health Training Centre.</td>
<td>Functions of UHC/ RHTC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manpower &amp; Duty arrangements</td>
</tr>
<tr>
<td>2</td>
<td>Immunization Programme</td>
<td>I (demonstration)</td>
</tr>
<tr>
<td>3</td>
<td>Immunization Programme</td>
<td>II ( Cold Chain)</td>
</tr>
<tr>
<td>4</td>
<td>Care of ANC mother</td>
<td>Demonstration of Antenatal case</td>
</tr>
<tr>
<td>5</td>
<td>Care of Infant</td>
<td>Demonstration of case</td>
</tr>
<tr>
<td>6</td>
<td>Post-natal case of mother/child.</td>
<td>Demonstration of case</td>
</tr>
<tr>
<td>7</td>
<td>Contraceptive devices</td>
<td>Situation to be given and sex education.</td>
</tr>
<tr>
<td>8</td>
<td>Exclusive breast feeding</td>
<td>Visit to Baby Friendly Hospital</td>
</tr>
<tr>
<td>9</td>
<td>Weaning foods</td>
<td>Demonstration</td>
</tr>
<tr>
<td>10</td>
<td>Nutritional demonstration</td>
<td>Explain nutritive values of Indian foodstuff</td>
</tr>
<tr>
<td>11</td>
<td>Nutritional assessment</td>
<td>Demonstration</td>
</tr>
<tr>
<td>12</td>
<td>Anthropometric measurements</td>
<td>Demonstration</td>
</tr>
<tr>
<td>13</td>
<td>Nutritional deficiency disorders</td>
<td>With A/V aids or case, Road to Health Chart</td>
</tr>
<tr>
<td>14</td>
<td>Protein Energy Malnutrition</td>
<td>With A/V aids or case, ORS preparation</td>
</tr>
<tr>
<td>15</td>
<td>Diarrhoea as a community health problem</td>
<td>With A/V aids or case</td>
</tr>
<tr>
<td>16</td>
<td>ARI as a community health problem</td>
<td>With A/V aids or case</td>
</tr>
<tr>
<td>17</td>
<td>Elementary essential drugs</td>
<td>Visit to drug store, Inventory control</td>
</tr>
<tr>
<td>18</td>
<td>Examination</td>
<td></td>
</tr>
</tbody>
</table>

**4th Semester 2nd Clinical Posting** - 66 hours.

The board guidelines for planning programmes are as follows.

1) Posting for family care study - 6 days
   - Principle of clinical epidemiology
   - Morbidity Survey.
   - Data analysis and presentation.

2) Posting for School Health - 6 days
   - Health check-up of school children.
   - Data analysis and presentation.
   - Health education activities in the school by the students.

3) Visit to anganwadi and ICDS scheme block - 2 days

4) Visit to Home for aged and discussion - 2 days
on geriatric health problems

5) Students’ seminars on topics like
   - Disaster management
   - Road traffic accidents
   - Population explosion etc.

6) Examinations

Phase III (6th and 7th Semester)

3rd Clinical Posting - 66 hours.

Posting: Clinical case presentation by students
1. Introduction to infectious diseases – history taking
2. Exanthematous fever.
4. Tuberculosis
5. Leprosy.
7. Tetanus.
8. PUO / Enteric fever / Malaria.
9. S.T.D. / AIDS.
10. Hepatitis
11. Introduction to non-communicable diseases.
   - Rheumatic heart disease.
   - Cancer.
   - Obesity / diabetes.

Examinations.
MARKS OF INTERNAL ASSESSMENT :-

Theory –20 marks and practical 20 marks. The students must secure at least 50%, marks of the total marks fixed for internal assessment in the subject in order to clear the subject.

I) Theory

<table>
<thead>
<tr>
<th>Semester</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd</td>
<td>50</td>
</tr>
<tr>
<td>4th</td>
<td>50</td>
</tr>
<tr>
<td>6th</td>
<td>50</td>
</tr>
</tbody>
</table>

Total 150 Marks

4) Prelim exam. Theory Paper I - 60 Marks
   Paper II - 60 Marks

Total 120 Marks,

Convert it to out of 10 marks

Total Theory Internal Assessment marks will be 20.

II) Practicals -

<table>
<thead>
<tr>
<th>Rotation</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>50</td>
</tr>
<tr>
<td>2nd</td>
<td>50</td>
</tr>
<tr>
<td>3rd</td>
<td>50</td>
</tr>
</tbody>
</table>

Total 150 Marks

4) Prelim exam. - 40 Marks
   10 Marks for Journals

Total 50 Marks

Convert it to out of 10 marks

Total Practical Internal Assessment marks will be 20.

- Introduction of “Brain Death and Organ Donation” topic in subjects of Physiology, Preventive & Social Medicine, Psychiatry, Medicine & Surgery

- Introduction Of “Bio-Medical Waste” topic in subject of Microbiology & Preventive & Social Medicine

- Introduction of “Integrated Management of Neonatal And Childhood Illness” Topic in MBBS Syllabus
BOOKS RECOMMENDED.

1. Textbook of Community Medicine, Kulkarni A.P. and Baride J.P.
2. Park’s Textbook of Preventive and Social Medicine, Park
3. Principles of Preventive and Social Medicine, K. Mahajan
4. Textbook of Community Medicine, B. Shridhar Rao.
5. Essentials of Community Medicine, Suresh Chandra.
6. Textbook of Biostatistics, B. K. Mahajan
7. Review in Community Medicine, V.R. Sheshu Babu.
8. Reference Book for Community Medicine: "Principles and practice of Biostatistics", Author: Dr. J.V. Dixit

FURTHER READINGS.

Epidemiology and Management for health care for all  P.V. Sathe and A.P. Sathe.

Essentials of Preventive Medicine  O.P. Ghai and Piyush Gupta.

Record Book:

1) The case records will have to be entered in a record book separately for General Medicine, for Paediatrics and for PSM.
2) In the record book of General Medicine, number of case records for Medicine shall be 12, for Skin & V.D. & Leprosy shall be 3, for Psychiatry shall be 2 and for Chest & TB shall be 3 cases.
3) The certificate of satisfactory completion of all Clinical postings will be entered based on similar certificates from all postings in all the above subjects.
4) In addition, details of the marks secured in the posting ending examination shall be entered on the second page on which the calculations of the internal assessments shall also be stated. Record book will not carry any marks but its satisfactory completion will be a prerequisite for appearing in examination.

University Examinations in Medicine and Allied Subjects at a Glance

MEDICINE :-

<table>
<thead>
<tr>
<th>Theory 2 papers of 60 marks each</th>
<th>= 120 marks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paper I</strong> - General Medicine</td>
<td></td>
</tr>
<tr>
<td><strong>Paper II</strong> - General Medicine (Including Psychiatry, Dermatology, STD shall contain one question on basic sciences and allied subject.)</td>
<td></td>
</tr>
<tr>
<td>Oral (viva) interpretation of X-Ray, ECG etc.</td>
<td>= 20 marks</td>
</tr>
<tr>
<td>Clinical (Bedside)</td>
<td>= 100 marks</td>
</tr>
<tr>
<td>Internal Assessment</td>
<td>= 60 marks</td>
</tr>
<tr>
<td>(Theory 30 Marks, Practical 30 Marks)</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>= 300 marks</td>
</tr>
</tbody>
</table>
**PAEDIATRICS :-** (Including Neonatology)

<table>
<thead>
<tr>
<th>Component</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory – One paper</td>
<td>40</td>
</tr>
<tr>
<td>( Shall include one question on basic sciences &amp; allied subjects)</td>
<td></td>
</tr>
<tr>
<td>Oral (Viva)</td>
<td>10</td>
</tr>
<tr>
<td>Clinical</td>
<td>30</td>
</tr>
<tr>
<td>Internal Assessment</td>
<td>20</td>
</tr>
<tr>
<td>Grand Total (Theory 10 Marks, Practical 10 Marks)</td>
<td>100</td>
</tr>
</tbody>
</table>
COMMUNITY MEDICINE :-

Theory 2 papers of 60 marks each = 120 marks
Includes problems showing applied aspects of management at primary level including essential drugs, occupational (agro based) diseases rehabilitation and social aspects of community.
Oral (Viva) = 10 marks
Practical /Project evaluation = 30 marks
Internal Assessment = 40 marks
(Theory 20 Marks, Practical 20 Marks)
Grand Total = 200 marks

Criteria of passing in various subjects at III MBBS Examination

<table>
<thead>
<tr>
<th>SN</th>
<th>Subject</th>
<th>Theory Paper / Oral/ Practical / Internal Assessment</th>
<th>Maximum Marks in each of the subject</th>
<th>Minimum marks required to pass in each part of any subject</th>
<th>Minimum marks required to pass in each subject out of</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Community Medicine</td>
<td>a) Theory Paper - I 60</td>
<td>60</td>
<td>65</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paper - II 60</td>
<td></td>
<td></td>
<td>200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Oral 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Practical 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Internal Assessment Theory 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internal Assessment Practical 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>General Medicine</td>
<td>a) Theory Paper I 60</td>
<td>60</td>
<td>70</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paper II 60</td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Oral 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Practical 100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Internal Assessment Theory 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internal Assessment Practical 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>Paediatrics</td>
<td>a) Theory Paper 40</td>
<td>20</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Oral 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Practical 30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Internal Assessment Theory 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internal Assessment Practical 10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is compulsory to obtain 50% marks in theory.
It is mandatory to obtain 50% marks in theory+viva/oral.

(The Frequency & other details of Internal Assessment Examinations shall be as stated in circular dated 15/02/01 table no III & IV. of General
Guidelines for U.G. teaching & training & Internal Assessment. Passing in Internal Assessment is prerequisite for eligibility to clear the subject. For passing in Internal Assessment student should secure minimum 30 out of 60 marks (theory & practical combined).

The Internal Assessment Examination shall consist of one clinical case paired with viva-voce for the periodical tests. However, the preliminary examination shall be carried out in a pattern similar to final University examination.

University (Final) Exam : General Medicine

<table>
<thead>
<tr>
<th>Paper I (60 Marks) Time 3 hours.</th>
<th>Paper II (60 Marks) Time 3 hours.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section A – Marks 15</strong></td>
<td><strong>Section A – Marks 15</strong></td>
</tr>
<tr>
<td>MCQs – 30 Items each of ½ mark</td>
<td>MCQs 30 Items each of ½ mark</td>
</tr>
<tr>
<td>Time 30 minutes</td>
<td>Maximum time 30 minutes</td>
</tr>
<tr>
<td>(Shall cover whole course syllabus stated in Section B and C of Paper I below)</td>
<td>(Shall cover whole course syllabus stated in Section B and C of Paper I below)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Section B – (Total Marks 25)</strong></th>
<th><strong>Section B – (Total Marks 25)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Two long questions</td>
<td>Two long Questions each of 8 marks and 3 short answer questions (out of 5 SAQs)</td>
</tr>
<tr>
<td>Each of 8 marks &amp; 3 Short Answer Questions of 3 marks each. (3 out of 5 SAQs by choice. On course contents of - Cardiovascular System, Gastrointestinal System, Hepatobiliary System &amp; Pancreas, Haematology, Haematoncology &amp; Genetics)</td>
<td>on course contents of Neurology, Psychiatry, Dermatology, Veneroleprology &amp; Collagen Disorders</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Section C – (Total Marks 20)</strong></th>
<th><strong>Section C – (Total Marks 20)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>One long Question of 8 marks and 4 (out of six) SAQs of 3 marks each on course contents of Endocrinology, Infectious diseases/Tropical Disease, Miscellaneous</td>
<td>One long question of 8 marks and 4 (out of six) SAQs of 3 marks each on course contents on Respiratory Diseases, Tuberculosis &amp; Clinical Nutrition and Nephrology</td>
</tr>
<tr>
<td>The Max Time for Section B &amp; C shall be of 2 hrs. + 30 minutes</td>
<td>The Max time for section B and C shall be of 2 hrs. and 30 minutes</td>
</tr>
</tbody>
</table>

MCQ Section A shall be given to the candidates in the beginning of examination. After 30 min. section A will be collected following which B & C shall be given. The time given Section B & C together is two and half hours. This applies to paper I & II.

(one of the short answer questions shall be on basic & allied sciences.)

Final University Exam : Practical Exam :

Shall comprise of total 120 marks. with divisions as below:-
(A) Clinical Bed side:

One Long case - 50 Marks  
Two short case - 25 Marks each  
Total - 100 Marks

Long Case / The time for case taking
for student is 45 min. & for examination is 10 min.

Short Case / The same for each short case is 10 min. & 5 min. respectively

(B) Oral Viva Voce and interpretation of investigation materials (like X-Rays, ECGs, etc. – 20 marks

Viva at Two Tables Each for 10 mars There should be even & balanced distribution of the course contents on these tables, between Internal & External examiners. This should include, specimens, instruments, microscopy & drugs on table no 1 & emergencies, radio-diagnostics, electrodiagnostic & Biochemical Lab. investigations on table no 2 as applicable to the course contents of final M.B.B.S. Exam.

(C) The marks of Internal Assessment shall be sent to the University before the commencement of the Theory Examination.

Note – In the event when I.A. could not be held on the specified time due to technical reasons or otherwise, then it should be held during the vacation.
Evaluation

Internal assessment: 20 (Theory 10 + Practical 10)

Plan of Internal assessment in Paediatrics (as per university circular on 9th February 2001) Marks of Internal Assessment should be sent to University confidentially before the commencement of Theory examination.

- Passing in internal assessment will be pre-requisite for clearing the subject.

Combined theory and practical of internal assessment will be considered for passing in internal assessment.

Internal assessment in Theory -

1. Examinations during semesters: This will be carried out by conducting two theory examinations at the end of 6th and 8th semesters (50 marks each).
   Total of 100 marks to be converted into 5 marks. (A/5)

2. Prelim examination: This shall be carried out during 9th semester.
   One theory papers of 40 marks as per university examination.
   Total of 40 marks to be converted into 5 marks. (B/5)

Total marks of Internal assessment of Theory will be addition of A and B.

Internal assessment in Practical

Examinations at end of Clinical postings:

1. There will be practical examination at the end of each clinical posting of Paediatrics.: 6th and 8th semester. Each examination will be of 50 marks.
   Total of 2 examinations – 100 marks, will be converted to 5 marks. (C/5)

2. Prelim examination:
   This will be conducted for 40 marks as per university examination pattern and marks will be converted to 5 (D/5).

Total marks of Internal assessment of Practical will be addition of C and D.
Evaluation  Methods - Theory, Practical and Viva

Pattern of theory examination including distribution of marks, questions and time

Pattern of theory examination including distribution of marks

1. There shall be one theory paper, carrying 40 marks
2. The paper will have two sections, A and B
3. The paper will be of 2.5 hours duration.
4. Section A will be MCQ in each paper. Section B will have to be written in separate answer sheets.

**THEORY** : 40 marks Duration Two and half hours (2.5) hours

MCQ section A will be given to candidates at the beginning of the examination. After 30 minutes Section A will be collected. Section B of paper will then be handed over to candidates.

**Section A** : 30 min. duration

- 28 MCQs - 1/2 mark each 14 marks
- Separate paper
- Single based response
- MCQ will cover whole syllabus

**Section B** : 2 hours duration

- 2 LAQ of 7 marks each 14 marks
- 3/5 SAQ of 4 marks each 12 marks

**PRACTICAL (FINAL EXAMINATION) : 40 Marks**

**One Long Case** 20 Marks

- Case Taking Time 45 Minutes
- Examination Time 10 Minutes

**One Short Case** 10 Marks

- Case Taking Time 10 Minutes
- Examination Time 05 Minutes

**ORAL (VIVA VOCE)** 10 Marks
Duration 10 Minutes

(Instruments, X-ray, Drugs, Emergency in Paediatrics.)

It is directed to interpretation of investigations

Clinical: One long case: 30 marks: 30 min. for taking case and 10 minutes for assessment

☐ Oral (viva voce): 10 marks: 10 min. duration

1. Dark Room 5 marks
2. Instruments 5 marks

FINAL EXAMINATION :- IN PSM
The distribution of marks at final examination

<table>
<thead>
<tr>
<th>Theory: two papers of 60 marks each</th>
<th>120 Marks</th>
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<tbody>
<tr>
<td>Oral (Viva)</td>
<td>10 Marks</td>
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<tr>
<td>Practicals</td>
<td>30 Marks</td>
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<tr>
<td>Internal assessment</td>
<td>40 Marks</td>
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<tr>
<td>☐ (Theory 20 Marks)</td>
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<tr>
<td>☐ (Practical 20 Marks)</td>
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Total 200 Marks

PATTERN:
THEORY: TWO PAPERS OF 60 MARKS EACH 120 MARKS :-

☐ Paper I include Concepts in Health & Disease, Sociology / Humanities, Epidemiology, Biostatistics, Communicable and non-communicable diseases, Genetics and Environmental Health.

☐ Paper II includes Demography & Family Planning, Maternal and child health Nutrition, Occupational Health, Mental Health, Health Education, Health Planning & Management, Health Care Delivery System, National Health Programmes, International Health,

☐ These are broad divisions. There are some chances of overlapping.

NATURE OF THEORY QUESTION PAPERS:
Final MBBS Examination of subject-PSM

Theory

Paper –I

Section A : 30 MCQs

MCQs

½ Mark each

Should cover whole course

content Of the Paper I

stated in Section B & C

below ( Max time = 30 min)

Section B: Total Marks =25

2. LAQs, each of 8 Marks

3. (out of 5 ) SAQs.

each of 3 marks on

Epidemiology, Bio-statistics

& communicable & non

communicable diseases

Section C: Total Marks =20

One LAQ of 8 marks

& 4 (out of 6 ) SAQs

each of 3 marks

On

Concepts in Health & Disease,

Sociology / Humanities

Genetics & environmental

Health

The full time for section B plus section C shall be of 2½ hrs. of Paper I and 2½ hrs for Paper II.

MCQ Section will be given to candidates first. After 30 minutes the Section B & C will be given to the candidates.

PATTERN AT PRACTICAL EXAMINATION

Marks

Orals (Viva) 10

Practical 30

The distribution of 30 marks of practical shall be -

1) Spots - 10 Marks ( 5 spots of 2 marks each) Time 10 min.

2) Exercises - 10 Marks ( 5 marks for Bio-Stat. & 5 marks for Epidemiological exercises) Time 10 min.

3) Clinical case Presentation - 10 Marks Time 45 min.

Total 30 Marks
It is compulsory to obtain 50% marks in theory.
It is mandatory to obtain 50% marks in theory+viva/oral.

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COURSE OF SURGERY AND ITS ALLIED SPECIALITIES FOR THIRD M.B.B.S.

These guidelines are based on MCI recommendations. Teaching has to be done keeping in mind the goals and objectives to be achieved by medical student

SURGERY and allied specialties-

(i) GOAL:
The broad goal of the teaching of undergraduate students in Surgery is to produce graduates capable of delivering efficient first contact surgical care.

(ii) OBJECTIVES:
The departmental objectives, syllabus and skills to be developed in the department of surgery during undergraduate medical education are presented herewith. These are prepared taking into consideration of various aspects and institutional goals given below:

1. A medical student after graduation may have different avenues of his/her professional career and may work either as a first contact physician in a private, semi-private or public sector or may take up further specialization in surgery or other specialties.
2. He may have to work in different settings such as rural, semi-urban or urban which may have deficient or compromised facilities.
3. These are based on the various health services research data in our community.
4. These are also based on following institutional goals in general;
   At the end of the teaching/ training the undergraduate will be able to:
   - Diagnose and manage common health problems of the individual and the community appropriate to his/her position as a member of the health team at primary, secondary and tertiary levels.
   - Be competent to practice curative, preventive, promotive and rehabilitative medicine and understand the concepts of primary health care.
   - Understand the importance and implementation of the National Health Programmes in the context of national priorities.
   - Understand the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude required for professional responsibilities.
   - Develop the ability for continued self-learning with a scientific attitude of mind and acquire further expertise in any chosen area of medicine.
A. KNOWLEDGE

At the end of the course, the student shall be able to:

1. Describe aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and children;

2. Define indications and methods for fluid and electrolyte replacement therapy including blood transfusion.

3. Define asepsis, disinfection and sterilization and recommend judicious use of antibiotics.

4. Describe common malignancies in the country and their management including prevention.

5. Enumerate different types of anaesthetic agents, their indications, mode of administration, contraindications and side effects.

B. SKILLS

At the end of the course, the student should be able to:

1. Diagnose common surgical conditions both acute and chronic, in adults and children.
2. Plan various laboratory tests for surgical conditions and interpret the results;
3. Identify and manage patients of haemorrhagic, septicaemic and other types of shock.
4. Be able to maintain patent air-way and resuscitate:
   A. A critically injured patient.
   B. Patient with cardio-respiratory failure;
   C. A drowning case.
5. Monitor patients of head, chest, spinal and abdominal injuries, both in adults and children.
6. Provide primary care for a patient of burns;
7. Acquire principles of operative surgery, including pre-operative, operative and post operative care and monitoring;
8. Treat open wounds including preventive measures against tetanus and gas gangrene.
9. Diagnose neonatal and paediatric surgical emergencies and provide sound primary care before referring the patient to secondary/territory centers;
10. Identify congenital anomalies and refer them for appropriate management.
In addition to the skills referred above in items (1) to (10), he shall have observed/assisted/performe
the following:

i. Incision and drainage of abscess;
ii. Debridement and suturing open wound;
iii. Venesection;
iv. Excision of simple cyst and tumours.
v. Biopsy and surface malignancy
vi. Catheterisation and nasogastric intubation;
vii. Circumcision
viii. Meatotomy;
ix. Vasectomy;
x. Peritoneal and pleural aspirations;
xi. Diagnostic proctoscopy;
xii. Hydrocoele operation;
xiii. Endotracheal intubation
xiv. Tracheostomy and cricothyroidotomy;
xv. Chest tube insertion.

**Human values, and Ethical practice**

- Adopt ethical principles in all aspects of his clinical practice. Professional honesty and integrity are to be fostered. Surgical care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
- Develop communication skills, in particular the skill to explain various options available in management
- Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues and specialist in the field when needed.
- Respect patient's rights and privileges including patient's right to information and right to seek a second opinion

© **INTEGRATION**

The undergraduate teaching in surgery shall be integrated at various stages with different pre and para and other clinical departments.

**LEARNING METHODS**

Lectures, Tutorials bedside clinics and lecture cum demonstrations

Distribution of Teaching hours -

- Lectures - 160 hours
- Tutorials and revision - 140 hours
- Bedside clinics - 468 hours five clinical postings totalling 26 weeks including Anaesthesiology
- Clinical postings in General Surgery -
  - 3rd Semester - 6 weeks
  - 5th Semester - 4 weeks
  - 7th Semester - 4 weeks
  - 8th Semester - 6 weeks
  - 9th Semester - 6 weeks

**Sequential organisation of contents and their division** -
GENERAL SURGERY LECTURES

4TH Term

General Surgery : Part I 16 Lectures

6TH Term 3 modules

- Module 1
  - Vascular Surgery : 8 Lectures
  - Tropical Surgery : 4 Lectures
  - Gen. Surgery Remaining 16 Lectures

- Module 2
  - Head and Neck surgery
  - Endocrine surgery 16 Lectures

- Module (3)
  - Breast surgery 4
  - Plastic & Reconstructive Surgery 6
  - Neurosurgery 6 16 Lectures

7TH Term: 3 modules

- Module (1)
  - Cardio Thoracic surgery 8
  - Paediatric surgery 8 16 Lectures

- Module (3)
  - Liver
  - Spleen 16 Lectures
  - Pancreas
  - Biliary Tract
  - Portal Hypertension.

- Module (3)
  - Upper Gastro intestinal Tract + Peritoneum 16 Lectures
8th Term  4 modules

- Module (1)
  Lower G.I. tract
  Abdominal wall,
  Incisional Hernia

- Module (2)
  Upper GUT
  Organ transplantation

- Module (3)
  Lower GUT
  Hernia, Hydrocoele

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160 Hours

9th Term
Revision Lectures/ tutorials/ lecture cum demonstrations  48

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208

TUTORIALS

6th Term  Surgical pathology  32
8th Term  Operative Surgery + Instruments  32
9th Term  Imaging sciences-
          Interpretation of Investigations  28

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300

Course contents- General Surgery - including paediatric surgery

COURSE CONTENTS

I. A. GENERAL PRINCIPLES
1. Wound healing and management, scars: Hypertrophic scar and keloid; First aid management of severely injured.
2. Asepsis, antisepsis, sterilisation.
3. Surgical sutures, knots, drains, bandages and splints.
4. Surgical infections and rational use of antibiotics: Causes of infection, prevention of infection, common organisms causing infection.
5. Boils, cellulitis, abscess, necrotising fascitis.
7. Chronic specific infections: Tuberculosis, Filariasis, and Leprosy.
8. Antibiotic therapy.
9. Hospital infection.
10. AIDS and Hepatitis B; Occupational hazards and prevention.

I. B.  1. Mechanism and management of missile, blast and gunshot injuries.
2. Surgical aspects of diabetes mellitus.
3. Bites and stings.
4. Organ transplantation - Basic principles.
5. Nutritional support to surgical patients.

II. RESUSCITATION.
1. Fluid electrolyte balance.
2. Shock: Aetiology, pathophysiology and management.

III. COMMON SKIN AND SUBCUTANEOUS CONDITIONS.
1. Sebaceous cyst, dermoid cyst, lipoma, haemangioma, neurofibroma, premalignant conditions of the skin, basal cell carcinoma, naevi and malignant melanoma.
2. Sinus and fistulae. Pressure sores; prevention and management.

IV. ARTERIAL DISORDERS.
1. Acute arterial obstruction: diagnosis and initial management; types of gangrene; diagnosis of chronic arterial insufficiency with emphasis on Burger’s disease, athroesclerosis and crush injuries.
2. Investigations in cases of arterial obstruction. Amputations;
3. Vascular injuries: basic principles of management.

V. VENOUS DISORDERS.
1. Varicose veins: diagnosis and management; deep venous thrombosis: diagnosis, prevention, principles of therapy; thrombophlebitis.

LYMPHATICS AND LYMPH NODES.
1. Diagnosis and principles of management of lymphangitis, lymphedema, acute and chronic lymphadenitis; cold abscess, lymphomas, surgical manifestations of filariasis.

VII. BURNS.
1. Causes, prevention and first aid management; pathophysiology; assessment of depth and surface area, fluid resuscitation; skin cover; prevention of contractures.

VIII. SCALP, SKULL AND BRAIN.
1. Wounds of scalp and its management: recognition, diagnosis and monitoring of patients with head injury including unconsciousness; Glasgow coma scale recognition of acute / chronic cerebral compression.

IX. ORAL CAVITY, JAWS, SALIVARY GLANDS.
1. Oral cavity: I) Cleft lip and palate; Leukoplakia; retention cyst; ulcers of the tongue.
   II) Features, diagnosis and basic principles of management of carcinoma lip, buccal mucosa and tongue, prevention and staging of oral carcinomas.

IX. A. Epulis, cysts and tumours of jaw: Maxillofacial injuries; salivary fistulae
X. NECK.
1. Branchial cyst; cystic hygroma.

X. B. Thoracic outlet syndrome: diagnosis.

XI. THYROID GLAND
1. Thyroid: Surgical anatomy, physiology, investigations of thyroid disorders; types, clinical features, diagnosis and principles of management of goitre, thyrotoxicosis and malignancy, thyroglossal cyst and fistula.

XI. B. Thyroiditis, Hypothyroidism.

XII. PARATHYROID AND ADRENAL GLANDS.
1. Clinical features and diagnosis of hyperparathyroidism, adrenal hyperfunction/ hypofunction.

XIII. BREAST.
1. Surgical anatomy; nipple discharge; acute mastitis, breast abscess; mammary dysplasia; gynaecomastia; fibroadenomas.
2. Assessment and investigations of a breast lump.

XIV. THORAX.
1. Recognition and treatment of pneumothorax, haemothorax, pulmonary embolism: Prevention/ recognition and treatment, flail chest; Stove in chest; Postoperative pulmonary complications.

XIV. B. Principles of management of pyothorax; cancer lung.

XV. HEART AND PERICARDIUM.
1. Cardiac tamponade
2. Scope of cardiac surgery.

XVI. OESOPHAGUS.
1. Dysphagia: Causes, investigations and principles of management.

XVII. STOMACH AND DUODENUM.
1. Anatomy; Physiology; Congenital hypertrophic pyloric stenosis; aetio-pathogenesis, diagnosis and management of peptic ulcer, cancer stomach; upper gastrointestinal haemorrhage with special reference to bleeding varices and duodenal ulcer.

XVIII. LIVER

XVIII. B. Surgical anatomy; primary and secondary neoplasms of liver.

XIX. SPLEEN
Splenomegaly: causes, investigations and indications for splenectomy: splenic injury.

XX. GALL BLADDER AND BILE DUCTS
1. Anatomy, physiology and investigations of biliary tree; clinical features, diagnosis, complications and principles of management of cholelithiasis and cholecystitis; obstructive jaundice.

XX. B. Carcinoma of gall bladder, choledochal cyst.

XXI. PANCREAS.
1. Acute pancreatitis: Clinical features, diagnosis, complications and management.
2. Chronic pancreatitis, pancreatic tumours.

XXII. PERITONEUM, OMENTUM, MESENTERY AND RETROPERITONEAL SPACE.
1. Peritonitis: Causes, recognition and principles of management; intraperitoneal abscess.

XXII. B. Laparoscopy and laparoscopic surgery.

XXIII. SMALL AND LARGE INTESTINES
1. Diagnosis and principles of treatment of: Intestinal amoebiasis, tuberculosis of intestine, carcinoma colon; lower gastrointestinal haemorrhage; Enteric fever, parasitic infestations.

XXIII. B. Ulcerative colitis, premalignant conditions of large bowel.

XXIV. INTESTINAL OBSTRUCTION.
1. Types, aetiology, diagnosis and principles of management; paralytic ileus.

XXV. ACUTE ABDOMEN.
1. Causes, approach, diagnosis and principles of management.

XXVI. APPENDIX
1. Diagnosis and management of acute appendicitis, appendicular lump and abscess.

XXVII. B. Management of carcinoma rectum; prolapse of rectum.

XXVIII. ANAL CANAL.
1. Surgical anatomy. Clinical features and management of: fissure, fistula in ano, perianal and ischiorectal abscess and haemorrhoids; Diagnosis and referral of ano-rectal anomalies.

XXVIII. B. Anal carcinoma.

XXIX. HERNIAS.
2. Omphalitis.

XXIX. B. Umbilical fistulae, Burst abdomen, ventral hernia.

XXX. GENITO- URINARY SYSTEM.
1. Symptoms and investigations of the urinary tract.

XXXI. KIDNEY AND URETER
1. Investigations of renal mass; diagnosis and principles of management of urolithiasis, hydronephrosis, pyonephrosis, and perinephric abscess, congenital anomalies of kidney & Ureter and renal tumours.
2. Renal tuberculosis.

XXXII. URINARY BLADDER.
1. Causes, diagnosis and principles of management of haematuria, anuria and acute retention of urine.

XXXIII. PROSTATE AND SEMINAL VESICLES.
1. Benign prostatic hyperplasia: diagnosis and management.

XXXIII. B. Carcinoma prostate.

XXXIII. URETHRA AND PENIS
1. Diagnosis and principles of management of Phimosis, paraphimosis and carcinoma penis.
2. Principles of management of urethral injuries.
3. Urethral strictures.

XXXV. TESTES AND SCROTUM
1. Diagnosis and principles of treatment of undescended testis; torsion testis; Hydrocoele, hematocoele, pyocele, varicocele, epididymo-orchitis and testicular tumours.
1. Oesophageal atresia and Intestinal atresia
2. Anorectal malformations
3. Constipation in children: Hirschsprung's disease, Acquired megacolon,
4. Congenital diaphragmatic hernia
5. Extrophy, Epispadias complex and hypospadias
6. Spinal diastrophism and Hydrocephalus
7. Urinary tract infections in children- Vesicoureteral reflux, posterior urethral
Valves, Vesico Ureteral Junction obstruction/Duplex ureter, Obstructive
upropathy in Children : Hydronephrosis, Hydroureteronephrosis
8. Testicular Maldescent
9. Umbilical Hernia, Exompholos: Major/minor
10. Wilm’s Tumours: Neuroblastoma, Ganglionioneuloblastoma, Ganglioneuroma,
Endo-dermal Sinus Tumours.
11. Hamartomas in Children: Lymphangioma and Cystic hygroma,
Haemangioma.

Biliary Atresia and Surgical jaundice

**Suggested lecture program**

**Distribution of syllabus in respective semesters**

This is suggested programme and can vary  at institute
Total 300 hours of teaching has to be done  in General Surgery including Tutorials
Details of syllabus is given separately below  after distribution as per semester

**4 th Semester**  :  16 Lectures

1) Introduction to Surgery
2) Body response to injury
3) Wound and wound healing
4) Acute infection, Boils, Carbuncle etc
5) Chronic infections
6) Tetanus and Gas gangrene
7) Neoplasm General Consideration
8) Surgical Nutrition
9) Pre operative and Post operative Care
10) Sepsis and Anti Spesis
11) Burns
12) Shock
13) Fluid and Electrolyte Balance
14) Monitoring of surgical Patients
15) Hemostasis and Blood transfusion.
6th Term  3 modules

Module 1
General surgery
a. Polytrauma
b. Missiles and their effects & blast injuries
c. Management of war wounds
d. Surgical diseases skin conditions
e. Minimally invasive surgery
f. Principal of Radiotherapy
g. OT Techniques
h. AIDS in surgery
i. Foot including Diabetic Foot
j. Hand and hand infection

Vascular Surgery
* ARTERIAL DISORDERS.
  1. Acute arterial obstruction: diagnosis and initial management; types of gangrene; diagnosis of chronic arterial insufficiency with emphasis on Burger’s disease, athreosclerosis and crush injuries.
  2. Investigations in cases of arterial obstruction. Amputations;
  3. Vascular injuries: basic principles of management.
  4. Surgically correctable Hypertension
* VENOUS DISORDERS.
  1. Varicose veins: diagnosis and management; deep venous thrombosis: diagnosis, prevention, principles of therapy; thrombophlebitis.

LYMPHATICS AND LYMPH NODES.
Diagnosis and principles of management of lymphangitis, lymphedema, acute and chronic lymphadenitis; cold abscess, lymphomas, surgical manifestations of filariasis.

Module 2
HEAD, FACE, NECK  8 lectures
1. ORAL CAVITY, JAWS, SALIVARY GLANDS.
   1. Oral cavity:
      I) Cleft lip and palate; Leukoplakia; retention cyst; ulcers of the tongue.
      II) Features, diagnosis and basic principles of management of carcinoma lip, buccal mucosa and tongue, prevention and staging of oral carcinomas.
   2. Salivary glands:
      I) Acute sialoadenitis, neoplasm: diagnosis and principles of treatment
      II) Salivary fistulae
2. Epulis, cysts and tumours of jaw: maxillofacial injuries
3. NECK
   1. Branchial cyst; cystic hygroma.
   2. Cervical lymphadenitis: Non specific and specific,
   3. Tuberculosis of lymphnodes, secondaries of neck.
2. ENDOCRINE SURGERY 8 lectures

A. THYROID GLAND
   I) Thyroid: Surgical anatomy, physiology, investigations of thyroid disorders; types, clinical features, diagnosis and principles of management of goitre, thyrotoxicosis and malignancy, thyroglossal cyst and fistula.

   ii) Thyroiditis, Hypothyroidism.

B. PARATHYROID AND ADRENAL GLANDS.
   Clinical features and diagnosis of hyperparathyroidism,
   Tumours of the adrenal gland
   Adrenal hyperfunction/ hypofunction

C. Diseases of thymus

- Module 3

1. NEURO-SURGERY 6 lectures
   1. Head injury
   2. Intracranial tumours & other ICSOL
   3. Congenital anomalies of brain & spinal cord
   4. Surgery of peripheral nerves & diseases

2. Surgery of Breast 5 lectures
   1. Surgical anatomy; nipple discharge; acute mastitis, breast abscess; mammary dysplasia; gynaecomastia; fibroadenomas.
   2. Assessment and investigations of a breast lump.
   3. Cancer breast: diagnosis, staging, principles of management

3. PLASTIC & RECONSTRUCTIVE SURGERY 6 lectures
   1. Management of burns
   2. Skin grafting including flaps
   3. Injuries of the hand
   4. Infections of the hand

7th Semester

Module (1)

   Cardio Thoracic surgery 8
   Paediatric surgery 8 16 lectures

- CARDIO-THORACIC SURGERY
   1. Injuries of the chest
   2. Tumours of the lung & bronchial tree
   3. Congenital heart disease
   4. Acquired heart disease
   5. Surgery of ischaemic heart disease
   6. Diseases of pericardium
   7. Cardiac arrest
Paediatric Surgery

1. Oesophageal atresia and Intestinal atresia
2. Anorectal malformations
3. Constipation in children: Hirschsprung's disease, Acquired megacolon,
4. Congenital diaphragmatic hernia
5. Extrophy, Epispadias complex and hypospadias
6. Spinal diastrophism and Hydrocephalus
8. Testicular Maldescent
9. Umbilical Hernia, Exompholos : Major/minor
10. Wilm’s Tumours: Neuroblastoma, Ganglioneuromabestoma,
    Ganglioneuroma, Endo-dermal Sinus Tumours.
11. Hamartomas in Children : Lymphangioma and Cystic hygroma,
    Haemangioma.
12. Biliary Atresia and Surgical jaundice

Module 2

- **TROPICAL SURGERY**
  1. Surgical consideration in Amoebiasis & Enteric fever
  2. Filariasis, Dracontiasis & Ascariasis
  3. Hydatid disease
  4. Leprosy, Madura foot, Tropical ulcer Actinomycosis

- **HEPATOBILIARY PANCREATIC SURGERY + SPLEEN**

  **A. LIVER**

  - Clinical features, diagnosis and principles of management of: Amoebic liver abscess,
  Liver trauma
  - Surgical anatomy; primary and secondary neoplasms of liver.

  **SPLEEN**

  - Splenomegaly: causes, investigations and indications for splenectomy: splenic injury.

  **GALL BLADDER AND BILE DUCTS**

  - Anatomy, physiology and investigations of biliary tree; clinical features, diagnosis, complications and principles of management of cholelithiasis and cholecystitis; obstructive jaundice.
  - Carcinoma of gall bladder, choledochal cyst.

  **PANCREAS.**

  - Acute pancreatitis: Clinical features, diagnosis, complications and management.
  - Chronic pancreatitis, pancreatic tumours.

  **PORTAL HYPERTENSION**

  - Clinical presentation, Investigation and management

Module 3
Upper gastrointestinal Tract and Peritoneum
- PERITONEUM, OMENTUM, MESENTERY AND RETROPERITONEAL SPACE.
  1. Peritonitis: Causes, recognition and principles of management;
  2. Intraperitoneal abscess
- OESOPHAGUS.
  1. Dysphagia: Causes, investigations and principles of management.

- STOMACH AND DUODENUM.
  1. Anatomy; Physiology, Congenital hypertrophic pyloric stenosis;
     aetiology, pathogenesis, diagnosis and management of peptic ulcer, cancer
     stomach; upper gastrointestinal haemorrhage with special reference to
     bleeding varices and duodenal ulcer.

- SMALL INTESTINES
  1. Diagnosis and principles of treatment of, tuberculosis of intestine.

8th Semester
Module 1
Lower gastrointestinal Tract and abdominal wall
- Acute Abdomen
- INTESTINAL OBSTRUCTION.
  Types, aetiology, diagnosis and principles of management; paralytic ileus
  Aetiology, Clinical Features. Investigations and management
- Abdominal Wall
  1. Features, diagnosis, complications and principles of management of :
     Umbilical, epigastric hernia, incisional; hernia ventral hernia
- LARGE INTESTINES
  Ulcerative colitis, premalignant conditions of large bowel carcinoma colon;
  lower gastrointestinal haemorrhage; parasitic infestations.

- APPENDIX
  Diagnosis and management of acute appendicitis,
  Appendicular lump and abscess.
- RECTUM.
  Carcinoma rectum: diagnosis, clinical features and principles of
     management; indications and
     Management of colostomy.
     Management of carcinoma rectum;
     Prolapse of rectum.
- ANAL CANAL
  Surgical anatomy. Clinical features and management of: fissure, Fistula in
  ano, perianal and ischiorectal abscess and haemorrhoids; Diagnosis and
  referral of anorectal anomalies.
  Anal carcinoma.
- Umbilicus and Abdominal wall
  Umbilical fistulae, Burst abdomen, ventral hernia.
Module 2

Upper genito-urinary Tract and Organ Transplantation

- GENITO- URINARY SYSTEM.
- Symptoms and investigations of the urinary tract.
- KIDNEY AND URETER
  - Anatomy and Embryology of Kidney and ureter
  - Congenital anomalies of kidney & Ureter
  - Investigations of renal mass;
  - Diagnosis and principles of management of urolithiasis,
    Hydronephrosis, pyonephrosis, perinephric abscess,
    Renal tumours.
    - Renal tuberculosis.

Module 3

Upper genito-urinary Tract and Hernia

- URINARY BLADDER.
  - Causes, diagnosis and principles of management of haematuria,
    Anuria and  Acute retention of urine.
- PROSTATE AND SEMINAL VESICLES.
  - Benign prostatic hyperplasia: diagnosis and management.
  - Carcinoma prostate.
- URETHRA AND PENIS
  - Diagnosis and principles of management of Phimosis , paraphimosis and.
  - Principles of management of urethral injuries.
  - Urethral strictures.
    - Carcinoma penis
- TESTES AND SCROTUM.
  - Diagnosis and principles of treatment of undescended testis; torsion testis;
    Hydrocoele, hematocoele, pyocoele,
    Varicocele, epididymo-orchitis and
    Testicular tumours
- HERNIAS.
  - Clinical features, diagnosis, complications and principles of management of:
    - Umbilical, Inguinal, epigastric and femoral hernia.

**Introduction of “ Brain Death and Organ Donation” topic in subjects of Physiology, Preventive & Social Medicine, Psychiatry, Medicine & Surgery**

RECOMMENDED BOOKS FOR GENERAL SURGERY

**TEXT BOOKS:**

1. Charles V. Mann, R.C.G. Russel, Norman S., Williams,

   Calcutta.

1997,

REFERENCE TEXT BOOKS

1. James Kyle : Pye’s Surgical handicraft, Indian edition, k.m. Varghese Company David C.

Goals and objectives of Allied Subjects

(B) ORTHOPAEDICS

(A) KNOWLEDGE
The student shall be able to:

1. Explain the principles of recognition of bone injuries and dislocation.
2. Apply suitable methods to detect and manage common infections of bones and joints.
3. Identify congenital, skeletal anomalies and their referral for appropriate correction or rehabilitation.
4. Recognize metabolic bone diseases as seen in this country:
5. Explain etiogenesis, manifestations, and diagnosis of neoplasm affecting bones.

(B) SKILLS:
At the end of the course, the student shall be able to:

1. Detect sprains and deliver first aid measures for common fractures and sprains and manage uncomplicated fractures of clavicle, Colles’s forearm, phalanges etc.
2. Use techniques of splinting, plaster, immobilization etc.
3. Manage common bone infections, learn indications for sequestration, amputations and corrective measures for bone deformities;
4. Advise aspects of rehabilitation for Polio, Cerebral Palsy and Amputation.

(C) APPLICATION

Be able to perform certain orthopaedic skills, provide sound advice of skeletal and related conditions at primary or secondary health care level.
(D) INTEGRATION

LEARNING METHODS

Lectures, Tutorials bedside clinics and lecture cum demonstrations

Distribution of Teaching hours -

- Lectures - 50 hours
- Tutorials and revision - 50
- Clinical postings in Orthopaedics

Total clinical Posting of 10 weeks of 180 hours
- 5th Semester - 4 weeks
- 6th Semester - 4 weeks
- 9th Semester - 2 weeks

Course contents and suggested lecture program of Orthopaedics
(Total 100 hours)

This is suggested programme and can vary at institute

Total 100 hours of teaching has to be done in Orthopaedics including Tutorials

Details of syllabus is given separately below after distribution as per semester

<table>
<thead>
<tr>
<th>6th Semester</th>
<th>Lectures 1 to 16</th>
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<tr>
<td>8th Semester</td>
<td>Lectures 17 to 32</td>
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<tr>
<td>8th Semester</td>
<td>Lectures 33 to 48</td>
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</tbody>
</table>

Topic: General Orthopaedics

Lectures

1. Introduction and scope of Orthopaedics Traumatology and Orthopaedic Diseases. Idea about Scheme of Examination.
2. Definition and Classification of Fracture and Dislocation Signs, symptoms and diagnosis of sprain, contusion fracture and dislocation.
3. First aid measures in Poly-trauma patient, spinal cord Injury patients and knowledge about various splints.
4. Principles of Management of sprain, Fracture and Dislocation with emphasis on various aspects of closed reduction, immobilization including internal fixation and rehabilitation.

1. Plaster technique, plaster complications and plaster disease.
2. Fracture Healing in cortical and cancellous bones and factors affecting fracture healing.

Topic: Orthopaedic Traumatology
3. Fracture clavicle, scapula, neck humerus and shaft humours.
4. Supracondylar fracture humerus with complications.
5. Fracture Forearm bones, Monteggia and Galeassi fracture dislocations, fracture olecranon head and neck radius.
6. Fracture scaphoid, Metacarpals and phalanges.
7. Colles fracture and Complications.
8. Dislocation (Acute and Recurrent) of shoulder and elbow.
10. Fracture of Pelvis with complications.
12. Fracture shaft femur and fractures around knee.
14. Fracture Tibia-fibula, fracture in tarsals, Metatarsals and phalanges.
15. Fracture dislocation around ankle,

**Topic : Orthopaedic Diseases**

25,26 Congenital skeletal anomalies with emphasis on congenital

   Talipes Equino varus (CTEV).

27. Congenital dislocation of hip (CDH), Osteogenesis Imperfecta, spina


29. Osteochondritis – various types.

30. Post Polio Residual Palsy with stress on preventive and rehabilitation aspect.
30. Acute Osteomyelitis.
31. Chromic Osteomyelitis.
32. Pyogenic arthritis of Hip, knee.
33, & 34. Osteo-articular Tuberculosis with special reference to Tuberculous of Hip, knee and elbow.
35. Tuberculosis spine and paraplegia.
36. Fungal Infections and leprosy in Orthopaedics.
37. Cerebral palsy, Diagnosis and rehabilitation.
38. Rheumatoid arthritis.
39. Degenerative arthritis.
40. Nerve injuries and principles of management.
41. Amputation and Disarticulation – Indications methods and complications.
42. Metabolic bone disease: Rickets, Osteomalacia and Osteoporosis.
45, 46. Malignant: Osteogenic sarcoma, Ewing’s tumour, Fibrosarcoma, Chondrosarcoma, Multiple Myeloma, Secondaries from Primary Carcinoma (Metastatic tumours)
47. Back ache.

Practical and Lecture cum Demonstration Classes, in MBBS in Orthopaedics

Once a week class for two hours in 8th/9th semester.

Topics of Demonstrations:
1. Plaster technique and splint applications.
2. Traction application, Orthopaedic appliances demonstration, Demonstration of Physiotherapy equipments.
3. Specimens of sequestrum and Tumours, Madura foot etc.
5 to 7. Common X-rays of traumatology, bony infection, joint infection and tuberculosis, Malunited Colle’s fracture, forearm or Supracondylar Humerus fracture.
8 to 10. Chronic osteomyelitis case, knee effusion case, Non union case, Bony tumour case.
Seminar Topics :
1. Osteomyelitis.
2. Tuberculosis.
3. Bone tumours
4. First aid and Acute trauma Life saving (ATLS) measures.

Tutorial Topics :
15. Supracondylar fracture Humerus.
16. Colle’s fracture.
17. Fracture neck femur.
18. Spine examination, Pott’s spine and paraplegia
19. CTEV.
20. Shoulder, Elbow and wrist examination.
22. Knee, ankle foot examination.
23. Nerve examination and nerve injuries.

Internal assessment:
- Two Term ending examination at the end of Posting of 50 markseach
  Total  100 out of  450 marks under general surgery.

C) ANAESTHESIOLOGY

DEPARTMENTAL OBJECTIVES:
At the end of the training, the students should be able to:
1. Perform cardio-pulmonary resuscitation with the available resources and transfer
   the patients to a bigger hospital for advanced life support.
2. Set up intravenous infusion.
3. Clear and maintain airway in an unconscious patient.
4. Administer oxygen correctly.
5. Perform simple nerve block.
6. Exhibit awareness of the principles of administration of general and local
   anaesthesia.

SKILLS:
1. Start I V line and infusion in adults, children and neonates.
2. Do venous cutdown.
3. Insert, manage a CVP line.
4. Conduct CPR (Cardiopulmonary resuscitation) and first aid in newborns, children
   and adults including endotracheal intubation.
5. Perform nerve blocks like infiltration, digital and field blocks.
6. Do lumbar puncture.
7. Administer O₂ by mask, catheter, and O2 tent and be able to handle O₂ cylinder.
LEARNING METHODS

Lectures, Tutorials bedside clinics and lecture cum demonstrations
Distribution of Teaching hours -
- Lectures - 20 hours
- Tutorials and revision -
- Bedside clinics - 36 hours, one clinical postings
  2 weeks in Anaesthesiology

COURSE CONTENTS:
1. Cardiopulmonary resuscitation (CPR) - basic and advanced, including use of simple ventilators.
4. The pharmacology of local anaesthetics, their use and how to perform simple nerve blocks like - Infiltration anaesthesia, digital block, ankle block, pudendal and paracervical blocks.
5. Management of complications of regional anaesthesia. The principles of administration of general anaesthesia.

D) Radiology: Diagnosis & Imaging

Goals:
- Realisation of the basic need of various radio-diagnostic tools.
- Radio-diagnostic Techniques to be adopted indifferent clinical situations in diagnosis of ailments.

Objectives:
- Knowledge:
  The student shall be able to

1. Understand basics of X-ray / USG production, its utility and hazards
2. Appreciate and diagnose radiological changes in diseases of Chest, Abdomen, Skeletal system, Gastro-intestinal system, Genito-urinary System & CNS
3. Learn about various Imaging techniques like nuclear medicine, computerised tomography (CT), Ultrasound, magnetic resonance imaging (MRI), conventional & Digital subtraction Angiography (DSA).
Skills: -
At the end of the course the student shall be able to

1. Interpret various radiological findings and their consequences
2. Use basic protective techniques during various Imaging procedures
3. Advice appropriate Diagnostic procedures to arrive at an appropriate diagnosis.

LEARNING METHODS
Lectures, Tutorials bedside clinics and lecture cum demonstrations
Distribution of Teaching hours -

- Lectures - 20 hours
- Tutorials and revision -
- Bedside clinics - 36 hours, one clinical postings
  2 weeks in Radiology

I : BONES & JOINTS :

Congenital dislocation of hip, congenital syphilis, Achonodroplasis, Osteogenesis Imperfecta.

Infection : Osteomyelitis, Tuberculosis of Bone & Spine.


Bone Tumours: Ewing’s, Osteogenic Sarcoma, Giant Cell Tumour Neurofibroma.

Lymphoreticular system & Haemopoietic Disorders : Thalassaemia, Sickle Cell disease, Lymphomas, Multiple myeloma, plasmacytoma, Haemophilia.

Metabolic & Endocrine Disorders of Bone: Rickets & Osteomalacia, Scurvy, Osteoporosis, Acromegaly, and Hyperparathyroidism.

Skeletal trauma: General Principles.

II: Chest:

Methods of examination, Normal X-ray Chest, Bronchopulmonary Segments.

Interpretation of Abnormal Chest X-ray : Silhouette sign, Air Bronchogram,

Interstitial Shadows, Alveolar Shadows, Honeycomb Lung, Cavitations, Calcification, Hilar Shadow, Mediastinum, Pleura.

Bronchography.

Bronchogenic Carcinoma.

Miliary Shadows, Pulmonary Tuberculosis, Solitary Pulmonary Nodule, Bronchiectasis, Primary complex.
**III : CARDIO-VASCULAR SYSTEM**

Normal Heart: Methods of examination.

Cardiomegaly, Pericardial Effusion.

Acquired Heart Diseases: Valvular Heart Disease, Ischaemic Heart Disease.

Congenital Heart Disease.

Aortic Aneurysms, Co-arcitation of Aorta.

**IV : GASTRO-INTESTINAL TRACT & ABDOMEN :**

Barium Examination of GI Tract.

Acute Abdomen.

Oesophagus: Carcinoma, Strictures, Varices, Achalasia, and Hiatus Hernia.

Stomach & Duodenum: Ulcer disease, Malignancy.

Intestine: Intestinal Obstruction, Volvulus, Ulcerative Colitis,

Intussusceptions, Malignancy, Hirschsprung’s Disease, Koch’s Abdomen Diverticular Disease, Polyp’s.

**V : HEPATO-BILARY SYSTEM, PANCREAS :**

Liver: Abscess, Hepatoma, Cirrhosis, Portal Hypertension, and Spenoportography.

Gall-Bladder: Calculus Disease, Malignancy, PTC, ERCP.

Pancreas: Pancreatitis, Malignancy.

**VI : URORADIOLOGY:**

Method of Examination: Intravenous Urography (IVP)

Calculus Disease, PUJ Obstruction, PU Valves, Renal Artery Stenosis,

Wilm’s Tumour, Renal Cell Carcinoma, GU Koch’s.

**VII : OBSTETRICS & GYNAECOLOGY :**

Hysterosalpingography (HSG), Intra-Uterine Foetal Death, Fibroid, Ovarian Tumours, Ultrasonography & Transvaginal US.

**VII: CENTRAL NERVOUS SYSTEM :**
Raised Intracranial Tension, Intracranial Calcification, Head Injury, Cerebrovascular Accident, Rind Enhancing Lesions in Brain, Spinal Neoplasms, Myelography.

IX: MISCELLANEOUS:

Radiation Hazards, Radiation Protection.

Imaging Modalities:

USG, CT, MRI: Principles, Applications, Advantages, Limitations, Developments.

Angiography: Seldinger Technique, Conventional Angiogram, DSA, Carotid, Coronary, Renal Angiograms, Aortogram.

Contrast Media: Barium Sulphate, Water Soluble & Oily Contrast.

Interventional Radiology: Developments, Angioplasty, Embolisation.

Mammography: Principles & Applications.

Internal assessment:

- Term ending examination at the end of Posting of 50 marks out of Total 450 marks under general surgery.

**Dentistry for MBBS students under Surgery**

**GOALS**

- Comprehensive understanding of Dentistry, Orofacial structures, the Dentition, Maxillary and Mandibular jaws and the Diagnosis, Treatment, Prevention, Restoration and Rehabilitation of the common dental problems

**OBJECTIVES**

A. KNOWLEDGE

- Various Diseases, Syndromes, Lesions, Disorders manifesting and affecting the Oral cavity, the Jaws and the TM joint.
- Effects of Dental Caries, Gingival and Periodontal diseases and Malocclusion.

B. SKILLS

- Examination of the Oral cavity and the TM Joint
- Local Anaesthesia Administration. Dental block
- Exodontia.
- Emergency management of Maxillofacial Trauma.
- Plaque control and Oral health care regimen.

**Learning methods**

- Total teaching hours: 10
- Theory lectures: 10 in 7th Semester
Clinical Postings; **2 weeks** each in 7th semester

**Internal assessment:**
- Term ending examination at the end of Posting of 50 marks out of Total 450 marks under general surgery.

**COURSE**

III MBBS, 7TH SEMESTER LECTURES: 10 Hours.

1. **Scope of Dentistry**  
   Introduction of various branches of Dentistry.  
   Basic Understanding of Dental Epidemiology  
   Effects of deleterious Habits on Dentition and Orofacial structures.

2. **Development and Growth of Jaws & Orofacial structures.**  
   Development & Eruption of teeth, Deciduous & Permanent.  
   Occlusion.  
   Preventive Care in Paediatric patients.

3. **Dental Caries**  
   Gingival & Periodontal Diseases.  
   Developmental Anomalies.  
   Cysts & Tumours of Oral cavity.  
   Neoplasms of Oral cavity.  
   Oral Microbiology.

4. **Orofacial Pain & its Management**

5. **Maxillofacial Trauma and Management of patient.**

6. **Oral Medicine**  
   Systemic diseases, the relevance of medications prescribed & their Oral Manifestations.  
   Infections of Orofacial structures esp. periodontal diseases & their Manifestations in Systemic conditions.  
   Relationship between Oral and systemic health.  
   Women’s Oral health care in Reproductive phase.

7. **Interdisciplinary team approach in the management of a patient in Dentistry involving Paediatrics, Plastic surgery, ENT Surgery, Neurosurgery, Ophthalmic surgery, Gen. Surgery, Medicine, Orthopaedics, Dermatology, Endocrinology and OB-GYN.**
8. Rehabilitation of lost Oral structures.
   Implantology.
10. Biomaterials used in Dentistry.
    Emerging technologies in Contemporary Dentistry.
    Molecular Dentistry.
    Integration with anatomy, surgery,
    pathology radiology and Forensic Medicine be done.

**CLINICAL POSTING in DENTISTRY - 2 WEEKS**
1. L.A. Administration, Techniques for different Blocks.
2. Exodontia
3. Preliminary Management of Maxillofacial Trauma
4. Pathological conditions of Oral cavity.
5. Oral and Maxillofacial Radiography & Imaging
6. Maxillo Facial Prosthodontics

**Criteria of passing in various surgical subjects at III MBBS Examination**

<table>
<thead>
<tr>
<th>SN</th>
<th>Subject</th>
<th>Theory Paper / Oral/ Practical / Internal Assessment</th>
<th>Maximum Marks in each of the subject</th>
<th>Minimum marks required to pass in each part of any subject</th>
<th>Minimum marks required to pass in each subject out of</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Otorhinolaryngology</td>
<td>a) Theory Paper - 1 40</td>
<td>20 25</td>
<td>50 100</td>
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<td></td>
<td></td>
<td>b) Oral 10</td>
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<td>c) Practical 30</td>
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<td>d) Internal Assessment Theory 10</td>
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<td>d) Internal Assessment Practical 10</td>
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<td>02</td>
<td>General Surgery</td>
<td>a) Theory Paper I 60</td>
<td>60 70</td>
<td>150 300</td>
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<td>b) Oral 20</td>
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<td>c) Practical 100</td>
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<td>d) Internal Assessment Theory 30</td>
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<td>d) Internal Assessment Practical 30</td>
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<tr>
<td>03</td>
<td>Obstetrics and Gynaecology</td>
<td>a) Theory Paper1 40</td>
<td>40</td>
<td>100 200</td>
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<td>b) Oral 20</td>
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<td>c) Practical 60</td>
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<td>d) Internal Assessment Theory 20</td>
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<tr>
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<td>d) Internal Assessment Practical 20</td>
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</table>
It is compulsory to obtain 50% marks in theory.
It is mandatory to obtain 50% marks in theory+ viva/oral.

FINAL MBBS EXAMINATION IN SURGERY

Evaluation :  Methods – Internal assessment, Theory, Practical and Viva

**Internal Assessment ( Formative Assessment)**

Theory – 30  Practical -  30    Total 60

- Marks of Internal Assessment should be sent to University before the commencement of Theory examination.
- Passing in internal assessment is essential for passing, as Internal assessment is separate head of passing in examination.
- It will also be considered for grace marks as per existing rules
- Combined theory and practical of internal assessment will be considered for passing in internal assessment.
- Student will be allowed to appear for both theory and practical exam independent of marks obtained in internal assessment, but he if fails in that head even after including the grace marks he will be declared “Fail in that Subject”

**Internal assessment in Theory -**

**Examinations during semesters:**
This will be carried out by conducting two theory examinations during 6th and 8th semesters (100 marks each).
Total of 200 marks to be converted into 15 marks.( A/15)

**Prelim examination :**
This shall be carried out during 9th semester. Two theory papers of 60 marks each as per university examination Pattern
Total of 120 marks to be converted into 15 marks. ( B/15)

Total marks of Internal assessment for Theory will be addition of A and B.
Internal assessment in Practical

Examinations at end of Clinical postings:

There will be practical examination at the end of each clinical posting of General Surgery. (3rd, 5th, 7th and 8th semester) Each examination will be of 50 marks. Total of 4 examinations - 200 marks. These marks and marks from Orthopaedics 100, Radiology 50, Dentistry 50 and Casualty 50 will be added. - Total 450 marks will be converted to 15 marks.( C/15)

Prelim examination:

This will be conducted for 120 marks as per university pattern and marks will be converted to 15 (D/15).

Total marks of Internal assessment for Practical will be addition of C and D.

Record BOOK
Case record will have to be entered in a record book. A combined record book of General surgery, Orthopaedics, Causality, Anaesthesiology, Dentistry and radiology will have to be maintained Minimum of five histories have to be recorded in each posting. The certificate of satisfactory completion of all clinical posting will be required from Head Of the department of Surgery. This will be base on multiple similar certificates from all postings in all subjects. In addition it will have details of all marks in posting ending exam on second page and calculation of internal assessment. Record book will not carry any marks but it will be prerequisite for Appearing for examination.

Pattern of theory examination including distribution of marks, Questions and Time
Theory

1. There shall be two theory papers - Paper I and II, carrying 60 marks each.
2. Each paper will have three sections, A, B and C. Each paper will be of 3 hours duration.
3. Section A will be MCQ in each paper. Section B and C will have to be written in separate answer sheets. Both will have Long Answer Question (LAQ) and Short Answer Questions (SAQ).
4. The topic covered in each section shall be as follows:

   **A. Paper I**
   - Section A – MCQ: will cover whole syllabus of Paper I
   - Section B: General principles of Surgery, Oncology, head, face, neck, Breast, Endocrine Surgery and Trauma
   - Section C: Orthopaedic surgery.

   **B. Paper II**
   - Section A – MCQ: will cover whole syllabus of Paper II
   - Section B: Gastrointestinal Tract including colon rectum and anal canal
     - Liver, pancreas and biliary tract, Spleen. Paediatric Surgery
   - Section C: Urology, Cardio thoracic surgery and Plastic surgery
     - Dental surgery, Radiology and Radiotherapy, Anaesthesiology.

**Paper I - 3 hrs - 60 marks**

Section A - MCQ: 30 x ½ marks each = 15 marks
- 30 minutes
- Separate paper
- Single based response
- MCQ will cover whole syllabus of Paper I

Section B - General Surgery: 25 Marks
- 2 LAQS – 8 marks x 2 = 16 marks
- 3/5 SAQS – 3 marks = 9 marks

**Topics** - General principles of Surgery, Oncology, head, face, neck, Breast, Endocrine Surgery and Trauma..

**NB: Shall contain one question on basic Sciences and allied subjects**

- Sec. C – Orthopaedics Surgery: 20 marks
- Topic: All topics in Orthopaedics
- Orthopaedics examiner will set this part of paper and to be evaluated by Orthopaedics examiner.
  - 1 LAQS (Long answer questions) – 8 marks
  - 4/6 SAQS (Short answer questions) x 3 marks each = 12 marks

**Time**
Sec. B & C – Two and half hours.
Section B and C to be written in separate answer sheets.
MCQ section A will be given to candidates at the beginning of the examination. After 30 minutes Section A will be collected. Section B and C paper will then be handed over to candidates.

PAPER II - Time 3 hrs - 60 marks

Section A - MCQ - 30 x ½ marks – 15 marks
- 30 minutes
- Separate paper
- Single based response
- MCQ will cover whole syllabus of Paper II

Section B – Marks: 25 marks
Topics: Gastrointestinal Tract including colon rectum and anal canal
Liver, pancreas and Biliary tract, Spleen, Paediatric surgery.

- 2 LAQS – 8 marks x 2 = 16 marks
- One question clinical Problem solving.
- 3/5 SAQS – 3 marks = 9 marks

NB: Shall contain one question on basic Sciences and allied subjects

Section C – Marks: 20 marks
Topics: Urology, Cardio thoracic surgery and plastic surgery
Dental surgery, Radiology and Radiotherapy, Anaesthesiology.

- 1 LAQS – 8 marks
- 4/6 SAQS x 3 marks each = 12 marks

Time Sec. B & C – Two and half hours.

Section B and C to be written in separate answer sheets.

MCQ section A will be given to candidates at the beginning of the examination. After 30 minutes Section A will be collected. Section B and C paper will then be handed over to candidates.

PRACTICAL EXAMINATION - 120 marks

Clinical examination
- Clinical cases
  - Long case I – Gen, Surgery. – 50 marks
  - Short case I - Orthopaedics – 25 marks
  - Short case II – Gen. Surgery -- 25 marks

Time for Long cases- 30 minutes for taking history and clinical examination.
10 minutes for viva

Time for 2 short cases - 20 minutes for taking history and clinical examination.
10 minutes for viva.

Viva examination - Duration and topic distribution (Total 20 marks)
- Tables – Viva will be directed towards interpretation of investigation
At two tables, each for ten marks. Time - 10 minutes at each table

- Instruments + Operations, – 10 marks
- Surgical Pathology, Imaging sciences and Orthopaedics – 10 marks

**Marks of VIVA will be added to Theory marks**
- It is compulsory to obtain 50% marks in theory.
- It is mandatory to obtain 50% marks in theory + viva/oral.

**OPHTHALMOLOGY**
These guidelines are based on MCI recommendations. Teaching has to be done keeping in mind the goals and objectives to be achieved by medical student

(i) **GOAL**
The broad goal of the teaching of students in ophthalmology is to provide such knowledge and skills to the student that shall enable him/her to practice as a clinical and as a primary eye care physician and also to function effectively as a community health leader to assist in the implementation of National Programme for the prevention of blindness and rehabilitation of the visually impaired.

(ii) **OBJECTIVES**
(a) **KNOWLEDGE**
At the end of the course, student shall have the knowledge of
1. Common problems affecting the eye,
2. Principles of management of major ophthalmic emergencies,
3. Main systemic diseases affecting the eye;
4. Effects of local and systemic diseases on patient’s vision and the necessary action required to minimize the sequelae of such diseases;
5. Adverse drug reactions with special reference to ophthalmic manifestations;
6. Magnitude of blindness in India and its main causes;
7. National programme for control of blindness and its implementation at various levels.
8. Eye care education for prevention of eye problems
9. Role of primary health center in organization of eye camps;
10. Organization of primary health care and the functioning of the ophthalmic assistant;
11. Integration of the national programme for control of blindness with the other national health Programmes.
12. Eye bank organization

**SKILLS**
At the end of the course, the student shall be able to:
1. Elicit a history pertinent to general health and ocular status;
2. Assist in diagnostic procedures such as visual acuity testing, examination of eye, Schiotz tonometry, Staining of Corneal pathology, confrontation perimetry, Subjective refraction including correction of presbyopia and aphakia, direct ophthalmoscopy and conjunctival smear examination and Cover test;
3. Diagnose and treat common problems affecting the eye;
4. Interpret ophthalmic signs in relation to common systemic disorders,
5. Assist/observe therapeutic procedures such as subconjunctival injection, corneal conjunctival foreign body removal, carbolic cautery for corneal ulcers, Nasolacrimal duct syringing and tarsorrhaphy;
6. Provide first aid in major ophthalmic emergencies;
7. Assist to organize community surveys for visual check up;
8. Assist to organize primary eye care service through primary health centers.
9. Use effective means of communication with the public and individual to motivate for surgery in cataract and for eye donation.
10. Establish rapport with his seniors, colleagues and paramedical workers, so as to effectively function as a member of the eye care team.

(C) INTEGRATION
The undergraduate training in Ophthalmology will provide an integrated approach towards other disciplines especially Neuro-sciences, ENT, General Surgery and Medicine.

LEARNING METHODS

- Total teaching hours: 100
- Theory lectures: 70(4th,6th,7th term.)
- Tutorials :30(7th term)
- Clinical Postings Two clinical postings of 4weeks
  First in 4th semester and second in 6th semester and 3rd posting of 2 weeks in 7th term Bedside clinics 10 weeks of three hours per day 180 hours

SYLLABUS OF III MBBS IN OPHTHALMOLOGY

INTRODUCTION ANATOMY & PHYSIOLOGY OF THE EYE
COMMON DISEASE OF EYE.

A) Conjunctiva.

Symptomatic conditions: - Hyperemia, Sub conjunctival Haemorrhage.
Diseases: - Classification of Conjunctivitis
Mucopurulant Conjunctivitis
Membranous Conjunctivitis Spring Catarrh.
Degenerations: Pinguecula and Ptergium

B) Cornea:
- Corneal Ulcers: Bacterial, Fungal, Viral, Hypopyon.
-Interstitial Keratitis.
-Keratoconus.
-Pannus
-Corneal Opacities.
-Keratoplasty.

C) Sclera:
- Episcleritis.
-Scleritis.
-Staphyloma.

D) Uvea
- Classification of Uveitis
-Acute & Chronic Iridocyclitis.
-Panophthalmitis.
-End Ophthalmitis.
-Choriditis.

E) Lens:
I) Cataract – Classification & surgical management of cataract.
- Including Preoperative Investigation.
-Anaesthesia.
-Aphakia.
-IOL Implant

F) Glaucoma:
-Aqueous Humor Dynamics.
-Tonometry.
-Factors controlling Normal I.O.P.
-Provocative Tests.
-Classifications of Glaucoma.
-Congenital Glaucoma.
-Angle closure Glaucoma.
-Open Angle Glaucoma.
-Secondary Glaucoma

G) Vitreous:
-Vitreous. Opacities.
-Vitreous. Haemorrhage.

H) Intraocular Tumours:
- Retinoblastoma.
-Malignant Melanoma

I) Retina:
- Retinopathies: Diabetic, Hypertensive Toxaemia of Pregnancy.
- Retinal Detachment.
- Retinitis Pigmentosa, Retinoblastoma

J) Optic nerve:
- Optic Neuritis.
- Papilloedema.
- Optic Atrophy.
K) Optics:
- Principles: V.A. testing, Retinoscopy, Ophthalmoscopy.
- Ref. Errors.
- Refractive Keratoplasty.
- Contact lens, Spectacles.

L) Orbit:
- Endocrinal Exophthalmos.
- Orbital Haemorrhage.

M) Lids:
- Inflammations of Glands.
- Blepharitis.
- Trichiasis, Entropion.
- Ectropion.
- Symblepharon.
- Ptosis.

N) Lacrimal System:
- Wet Eye.
- Dry Eye.
- Naso Lacrimal Duct Obstruction.
- Dacryocystitis.

O) Ocular Mobility:
- Extrinsic Muscles.
- Movements of Eye Ball.
- Squint: Gen. Aetiology, Diagnosis and principles of Management.
- Paralytic and Non Paralytic Squint.
- Heterophoria.
- Diplopia.

P) Miscellaneous:
- Colour Blindness.

Q) Ocular Trauma:
- Blunt Trauma.
- Perforating Trauma.
- Chemical Burns.
- Sympathetic Ophthalmitis.
2) Principles of Management of Major Ophthalmic Emergencies:
- Acute Congestive Glaucoma.
- C. Ulcer.
- Intraocular Trauma.
- Chemical Burns.
- Sudden Loss of vision
- Acute Iridocyclitis.
- Secondary Glaucomas

3) Main Systemic Diseases Affecting the Eye:
- Tuberculosis.
- Syphilis.
- Leprosy.
- Aids.
- Diabetes.
- Hypertension

4) Drugs:
- Antibiotics
- Steroids.
- Glaucoma Drugs.
- Mydriatics.
- Visco elastics.
- Fluoresceine.

5) Community Ophthalmology:
- Blindness: Definition Causes & Magnitude
  N.P.C.B. – Integration of N.P.C.B. with other health
- Preventable Blindness.
- Eye care.
- Role of PHC’s in Eye Camps.
- Eye Banking.


Clinical Ophthalmology cases To Be Covered
MBBS

History taking & Eye examination

Assessment of visual function.

Conjunctiva
- Pterigium.
- Pinguecula
- Conjunctivitis.
- Sub Conj. Haemorrhage.

Cornea
- Corneal Opacity.
- Corneal Ulcer.
- Corneal Abscess.
- Corneal Transplant
Sclera
- Scleritis, Epi Scleritis.
- Staphyloma.

Uvea
- Iridocyclitis.

Lens
- Cataract.
- Aphakia
- IOLs
- Complications

Glaucoma – Types, Signs, Symptoms & Management

Squint

Lids
- Entropion
- Ectropion
- Ptosis.

**OPHTHALMOLOGY - MBBS**

<table>
<thead>
<tr>
<th>TUTORIALS</th>
<th>TOPICS</th>
</tr>
</thead>
</table>

**SURGICAL TECHNIQUES**

- Cataract
  - ECCE
  - ICCE
  - IOL Implantation
  - Phaco-emulsification.
- Pterigium
- Chalazion
- Glaucoma
- Foreign Body Removal
- Enucleation
- Keratoplasty
- Basic of squint, L 10

**Instruments**

- OPD
- Operative
- Basic Examination and Diagnostic instruments
  Tonometer, Sac Syringing, Slip Lamp.
Optics - Lenses – Spheres, Cylinders, Prisms, Pinhole, Slit, Maddox Rod & Maddox wing, Red & Green Glasses.
- IOLs
- Ophthalmoscopy
- Retinoscopy
- Contact Lenses
- Colour Vision

Drugs
Miotics
Antibiotics
Antiglaucoma
Mydriatics
Steroids
Anti virals
NSAIDS
Anti Fungal
Viscofluids

Lecture held each term for VII and VIII term : Under graduate Theory Lectures:

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<thead>
<tr>
<th>Topics</th>
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<td>1. Anatomy &amp; Physiology</td>
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<td>2. Optics</td>
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<td>3. Conjunctiva</td>
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<tr>
<td>4. Cornea</td>
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<td>5. Sclera</td>
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<tr>
<td>6. Uvea</td>
<td>4</td>
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<tr>
<td>7. Cataract</td>
<td>6</td>
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<tr>
<td>8. Glaucoma</td>
<td>6</td>
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<tr>
<td>9. Optic Nerve</td>
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<td>10. Retina</td>
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<td>12. Squint</td>
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<tr>
<td>13. Community Ophthalmology</td>
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<td>14. Lids</td>
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<tr>
<td>15. Orbit</td>
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<tr>
<td>16. Lacrimal Appartus and Dry Eye</td>
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<tr>
<td>17. Miscellaneous &amp; Others</td>
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</table>

**Total Lectures** 70

**Tutorials** 30

100
FINAL MBBS EXAMINATION IN  OPHTHALMOLOGY

Evaluation

Internal assessment:  20 ( Theory 10 +Practical 10)

Plan of Internal assessment in Ophthalmology

- Marks of Internal Assessment should be sent to University before the commencement of Theory examination.
- Passing in internal assessment is essential for passing, as Internal assessment is separate head of passing in examination.
- It will also be considered for grace marks as per existing rules
- Combined theory and practical of internal assessment will be considered for passing in internal assessment.
- Student will be allowed to appear for both theory and practical exam independent of marks obtained in internal assessment but he if fails in that head even after including the grace marks he will be declared “Fail in that Subject”

Internal assessment in Theory -

1. Examinations during semesters : This will be carried out by conducting two theory examinations during 4th and 6th semesters (50 marks each).
   Total of 100 marks to be converted into 5 marks. (A/5)

2. Prelim examination : This shall be carried out during 9th semester.
   One theory papers of 40 marks as per university examination.
   Total of 40 marks to be converted into 5 marks. (B/5)

Total marks of Internal assessment- Theory will be addition of A and B.

Internal assessment in Practical

Examinations at end of Clinical postings:

1. There will be practical examination at the end of each clinical posting of Opthalamology,4th and 6th semester. Each examination will be of 50 marks. Total of 2 examinations – 100 marks, will be converted to 5 marks. (C/5)

2. Prelim examination:
   This will be conducted for 40 marks as per university pattern and marks will be converted to 5 (D/5).
   Total marks of Internal of-of Practical will be addition of C and D.
Evaluation  Methods - Theory, Practical and Viva
Pattern of theory examination including distribution of marks, questions and time

Pattern of theory examination including distribution of marks

1. There shall be one theory papers, carrying 40 marks
2. The paper will have two sections, A and B
3. The paper will be of 2.5 hours duration.
4. Section A will be MCQ in each paper. Section B will have to be written in separate answer sheets.

THEORY : 40 marks  Duration  Two and half hours (2.5) hours

MCQ section A will be given to candidates at the beginning of the examination.
After 30 minutes Section A will be collected. Section B of paper will then be handed over to candidates.

Section A : 30 min. duration
Twenty eight single MCQs- 1/2 mark each : 14 marks

- Separate paper
- Single based response
- MCQ will cover whole syllabus

Section B : 2 hours duration

- Two long questions (LAQ) of 7 marks each : 14 marks (will contain some preclinical/paraclinical aspects)
- Three/five (SAQ) short notes -4 marks each : 12 marks

PRACTICAL : 40 marks
Clinical : One long case : 30 marks : 30 min. for taking case and 10 minutes for assessment
- Oral (viva voce) : 10 marks: 10 min. duration
  1. Dark Room 5 marks
  2. Instruments 5 marks

Marks of VIVA will be added to Theory marks
It is compulsory to obtain 50% marks in theory.
It is mandatory to obtain 50% marks in theory+viva/oral.
Course of OTORHINOLARYNGOLOGY
These guidelines are based on MCI recommendations. Teaching has to be done keeping in mind the goals and objectives to be achieved by medical students.

1. GOAL
   The basic idea of undergraduate students teaching and training in otolaryngology is that he/she should have acquired adequate knowledge and skills for optimally dealing with common disorders, emergencies in E.N.T. and basic principles of impaired hearing rehabilitation.

2. OBJECTIVES
   (a) KNOWLEDGE
      At the end of course the student shall be able to:
      (1) Describe the basic pathophysiology and common Ear, Nose, Throat diseases and emergencies.
      (2) Adopt the rationale use of commonly used drugs, keeping in mind their side effects.
      (3) Suggest common investigative methods and their interpretation.
   (b) SKILLS
      At the end of course, the student shall be able to:
      1. Examine and diagnose common ear, nose, throat problems including premalignant and malignant diseases of head and neck.
      2. Manage ear, nose, throat (E.N.T) problems at the first level of care and be able to refer whenever and wherever necessary.
      3. Assist/do independently basic E.N.T. procedures like ear syringing, ear dressings, nasal packing removal of foreign bodies from nose, ear, throat.
      4. Assist in certain procedures like tracheostomy, endoscopies.
      5. Conduct CPR (cardiopulmonary resuscitation).
      6. Be able to use auroscope, nasal speculum, tongue depressor, tuning fork and head mirror.

INTEGRATION
The undergraduate training in E.N.T. will provide an integrated approach towards other disciplines especially neurosciences, ophthalmology and general surgery.

LEARNING METHODS
1. Total teaching hours : 70
2. Theory lectures : 48(4th, 6th, 7th term.)
3. Tutorials : 22(7th term)
4. Clinical Postings
   Two clinical postings of 4 weeks
   First in 4th semester and second in 6th semester
   Bedside clinics – 8 weeks of three hours per day 144 hours
**Course distribution and Teaching Programme**

This is suggested programme and can vary at institute
Total 70 hours of teaching has to be done in ENT including Tutorials
Details of syllabus is given separately below after distribution as per semester

Theory lectures will be taken once a week and their distribution will be as below:

1. 4th term: 16 (nose and Paranasal sinuses/throat)
   - a. NOSE AND P.N.S.: 10
   - b. THROAT AND NECK: 6

2. 6th term: 16 (Remaining topics of throat, head and neck and ear)
   - a. THROAT AND NECK: 8
   - b. EAR: 8

3. 7th term: 16 lectures
   - a. RECENT ADVANCES AND OTHERS: 4
   - b. EAR: 12

Total Theory lectures: 48

Tutorials 7th Term: 22 hours teaching

**THEORY LECTURES**: 4th, 6th, 7th term (one hour per week)

<table>
<thead>
<tr>
<th>Topics</th>
<th>No. of lectures</th>
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<tbody>
<tr>
<td><strong>Throat</strong></td>
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<tr>
<td>Anatomy/physiology</td>
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<tr>
<td>Diseases of buccal cavity</td>
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<tr>
<td>Diseases of pharynx</td>
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<td>Tonsils and adenoids</td>
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<tr>
<td>Pharyngeal tumours and related</td>
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<tr>
<td>Topics (trismus, Plummer-Vinson Syndrome etc.)</td>
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<td>Anatomy/physiology/examination</td>
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<td>Methods/symptomatology of larynx</td>
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<td>Stridor/tracheostomy</td>
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<td>Laryngitis/laryngeal trauma</td>
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<tr>
<td>Laryngeal paralysis/foreign body larynx</td>
<td>2</td>
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<tr>
<td>Bronchus, etc.</td>
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</tr>
<tr>
<td>Laryngeal tumours</td>
<td>1</td>
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</tbody>
</table>

| Nose and paranasal sinuses                 |                 |
| Anatomy/physiology/ exam.                 |                 |
| Methods/symptomatology                    | 2               |
| Diseases of ext. nose/cong. Conditions    | 1               |
| Trauma to nose/p.n.s/Foreign Body/Rhinolith| 1               |
| Epistaxis                                  | 1               |
| Diseases of nasal septum                   | 1               |
| Rhinitis                                   | 1               |
| Nasal polyps/nasal allergy                | 1               |
| Sinusitis and its complications            | 1               |
| Tumours of nose and Para nasal sinuses    | 1               |
**Ear**
- Anatomy /physiology: 2
- Methods/methods of examination: 1
- Cong.diseases/ ext.ea /middle ear: 1
- Acute/chronic supp. otitis media
  - Aetiology, clinical features and its Management/complications: 6
- Serous/adhesive otitis media: 1
- Mastoid/middle ear surgery: 1
- Otosclerosis/tumours of ear: 2
- Facial paralysis/Meniere’s disease: 2
- Tinnitus /ototoxicity: 2
- Deafness/hearing aids/rehabilitation
  - Audiometry: 2

**FINAL MBBS EXAMINATION IN OTORHINOLARYNGOLOGY**

**Evaluation**

**Internal assessment: 20 (Theory 10 + Practical 10)**

- Marks of Internal Assessment should be sent to University before the commencement of Theory examination.
- Passing in internal assessment is essential for passing, as Internal assessment is separate head of passing in examination.
- It will also be considered for grace marks as per existing rules.
- Combined theory and practical of internal assessment will be considered for passing in internal assessment.
- Student will be allowed to appear for both theory and practical exam independent of marks obtained in internal assessment but he if fails in that head even after including the grace marks he will be declared “**Fail in that Subject**”

**Internal assessment in Theory -**

1. **Examinations during semesters**: This will be carried out by conducting two theory examinations during 4th and 6th semesters (50 marks each). Total of 100 marks to be converted into 5 marks. (A/5)
2. **Prelim examination**: This shall be carried out during 7th semester. One theory papers of 40 marks as per university examination. Total of 40 marks to be converted into 5 marks. (B/5)
3. **Total marks of Internal assessment**: Theory will be addition of A and B.

**Internal assessment in Practical**

**Examinations at end of Clinical postings:**
There will be practical examination at the end of each clinical posting of ENT, 4th and 6th semester) Each examination will be of 50 marks.
Total of 2 examinations – 100 marks, will be converted to 5 marks. (C/5)

**Prelim examination:**
This will be conducted for 40 marks as per university pattern and marks will be converted to 5 (D/5).
Total marks of Internal assessment—of Practical will be addition of C and D.

Methods - Theory, Practical and Viva
Pattern of theory examination including distribution of marks, questions and time

1. There shall be one theory paper, carrying 40 marks
2. The paper will have two sections, A and B
3. The paper will be of 2.5 hours duration.
4. Section A will be MCQ in each paper. Section B will have to be written in separate answer sheets.
5. MCQ section A will be given to candidates at the beginning of the examination. After 30 minutes Section A will be collected. Section B of paper will then be handed over to candidates.

THEORY: 40 marks       Duration: Two and half hours   (2.5) hours

Section A : 30 min. duration
1. Twenty eight MCQs- 1/2 mark each: 14 marks
2. Separate paper Single based response
3. MCQ will cover whole syllabus

Section B : 2 hours duration
1. Two long questions (LAQ) of 7 marks each: 14 marks
   (will contain some preclinical / paraclinical aspects)
2. Three/five (SAQ) short notes - 4 marks each: 12 marks

PRACTICAL : 40 marks

Clinical
1. One long case: 20 marks: 30 min. For examination and 10 minutes for assessment
2. One short case: 10 marks: 15 min. for examination and 5 minutes for assessment

Oral (viva voce): 10 marks: 10 min. duration
   (Instruments, x-rays, specimens, audiograms)

- Marks of VIVA will be added to Theory marks
- It is compulsory to obtain 50% marks in theory.
- It is mandatory to obtain 50% marks in theory+viva/oral.
These guidelines are based on MCI recommendations. Teaching has to be done keeping in mind the goals and objectives to be achieved by medical students.

(i) **GOAL**

The broad goal of the teaching of undergraduate students in Obstetrics and Gynaecology is that he/she shall acquire understanding of anatomy, physiology and pathophysiology of the reproductive system & gain the ability to optimally manage common conditions affecting it.

(ii) **OBJECTIVES;**

(A) **KNOWLEDGE:**

At the end of the course, the student shall be able to:

- Outline the anatomy, physiology and pathophysiology of the reproductive system and the common conditions affecting it.
- Detect normal pregnancy, labour puerperium and manage the problems he/she is likely to encounter therein,
- List the leading causes of maternal perinatal morbidity and mortality.
- Understand the principles of contraception and various techniques employed, methods of medical termination of pregnancy, sterilization and their complications.
- Identify the use, abuse and side effects of drugs in pregnancy, pre-menopausal and post-menopausal periods;
- Describe the national programme of maternal and child health and family welfare and their implementation at various levels.
- Identify common gynaecological diseases and describe principles of their management.
- State the indications, techniques and complications of surgeries like Caesarian Section, laparotomy, abdominal and vaginal hysterectomy, Fathergill’s
operation and vacuum aspiration for Medical Termination of Pregnancy (MTP)

(B) SKILLS
At the end of the course, the student shall be able to:

1. Examine a pregnant woman; recognize high-risk pregnancies AND make appropriate referrals
2. Conduct a normal delivery, recognize complications and provide postnatal care;
3. Resuscitate the newborn and recognize the congenital anomalies
5. Perform pelvic examination, diagnose and manage common gynaecological problems including early detection of genital malignancies;
6. Make a vaginal cytological smear, perform a post coital test and wet vaginal smear examination for Trichomonas vaginalis, Moniliasis and gram stain for gonorrhoea;
7. Interpretation of data of investigations like biochemical, histopathological, radiological ultrasound etc.

(C) INTEGRATION
The student shall be able to integrate clinical skills with other disciplines and bring about coordination of family welfare programme for the national goal of population control.

(D) GENERAL GUIDELINES FOR TRAINING:

1. Attendance of a maternity hospital or the maternity wards of a general hospital including
(i) antenatal care

the management of the puerperium and

a minimum period of 5 months in-patient and out-patient training

including family welfare planning

2. of this period of clinical instruction, not less than one month shall be

spent as a resident pupil in a maternity ward of a general hospital.

3. during this period, the student shall conduct at least 10 cases of labour

under adequate supervision and assist 10 other cases.

4. a certificate showing the number of cases of labour attended by the

student in the maternity hospital and/or patient homes respectively,

shall be signed by a responsible medical officer on the staff of the

certificate hospital and shall state:

(a) that the student has been present during the course of labour

and personally conducted each case, making the necessary

abdominal and other examinations under the supervision of the

certifying officer who shall describe his official position.

(b) That satisfactory written histories of the cases conducted

including wherever possible antenatal and postnatal

observations, were presented by the student and initialed by the

supervising officer

LEARNING METHODS

Lectures, Tutorials bedside clinics and lecture cum demonstrations

Distribution of Teaching hours -

- Lectures - 130 hours
- Tutorials and revision - 170 hours
- Bedside clinics - 468 hours
### DIDACTIC LECTURES

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<td>48</td>
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<td>8</td>
<td>1 / WEEK</td>
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<td><strong>TOTAL</strong></td>
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<td><strong>130</strong></td>
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### B) CLINICAL DEMONSTRATIONS, PRACTICAL DEMONSTRATIONS, SEMINARS ETC.

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<th>HOURS/WEEK</th>
<th>TOTAL</th>
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<td><strong>TOTAL</strong></td>
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TOTAL TEACHING HOURS 300

---

**Suggested lecture program**

**Distribution of syllabus in respective semesters**

This is suggested programme and can vary at institute.

Total 300 hours of teaching has to be done in OB GY including Tutorials.

Details of syllabus is given separately below after distribution as per semester.

*  

**4th Semester : OBSTETRICS :**
1. Applied anatomy of female genital tract.
2. Development of genital tract
3. Physiology of menstruation
4. Puberty and menopause
5. Physiology of ovulation / conception / implantation.
7. Structure, function and anomalies of placenta.
10. Normal labour - Physiology, mechanism, clinical course and management, pain relief in labour.
12. Examination and care of newborn.
13. Contraception - Introduction and basic principles

National health Programme - safe-motherhood, reproductive and child health, social obstetrics.

6TH Semester: GYNAECOLOGY & FAMILY PLANNING

GYNAECOLOGY
1. Development of genital tract, congenital anomalies and clinical significance, Chromosomal abnormalities and intersex.
2. Physiology of Menstruation, Menstrual abnormalities - Amenorrhoea, Dysmenorrhoea, Abnormal Uterine Bleeding, DUB.
4. Menopause & H R T.
5. Infections of genital tract, Leucorrhoea, Pruritus vulvae, Vaginitis, Cervicitis, PID, Genital TB, Sexually transmitted infections including HIV infection.
8. Other gynaecological disorders - Adenomyosis, Endometriosis
9. Genital Prolapse, Genital Tract displacement,
10. Urinary disorders in Gynaecology, Perineal tears, Genital Fistulae, RVF & VVF.

FAMILY PLANNING :
---------------------------------------
1. Demography and population Dynamics.
2. Contraception - Temporary methods.
   Permanent methods.
   1. MTP Act and procedures of MTP in first & second trimester.
2. Emergency contraception:

7TH Semester: OBSTETRICS & NEWBORN
Hyperemesis gravidarum / abortion / ectopic pregnancy / gestational trophoblastic disease.

2. Obstetrical complications during pregnancy.
   APH - Accidental hemorrhage. Placenta praevia.

3. Poly hydramnios / oligohydramnios, multifetal pregnancy.

   Anemia, Heart disease. Hypertensive disorder, PIH and Eclampsia, Diabetes, jaundice, pulmonary disease in pregnancy.

5. Infections in pregnancy.
   Urinary tract diseases, sexually transmitted infections including HIV, malaria, TORCH etc.

6. Gynaecological and surgical conditions in pregnancy.
   Fibroid with pregnancy, ovarian tumours, acute abdomen, genital prolapse.


8. Induction of labour.


10. Abnormal labour - abnormal uterine action, CPD. Obstructed labour, uterine rupture.


12. Puerperal Sepsis and Other Complications in puerperium.


14. Drugs used in obstetric practice.

15. Operative procedures in Obstetrics: Caesarean Section, Instrumental Vaginal Delivery, Forceps, Vacuum.


NEW BORN:

1. Examination and care of new born & low birth weight babies.

2. Asphyxia and neonatal resuscitation.

3. Diagnosis of early neonatal problems.

4. Birth injuries, jaundice, infection.

5. Anencephaly & Hydrocephalus and other Congenital Anomalies of fetus.

8TH Semester: PREVENTIVE ONCOLOGY

1. Preventive Oncology
2. Principles of gynaecological surgical procedures
3. Pre and post operative care in Gynaecology
4. Ultrasoundography and Radiology, in Gynaecology
5. Endoscopy in Gynaecology
6. Drugs and hormones in Gynaecology
7. Surgical procedures in obstetrics
8. Maternal mortality
9. Perinatal mortality
10. Recurrent pregnancy wastages
11. High risk pregnancy
12. Rural obstetrics
13. Drugs in Pregnancy
14. Drugs in obstetric practice

In addition, integrated teaching with other departments like anatomy, physiology, biochemistry, pathology, microbiology, Forensic Medicine and Preventive and Social medicine to be organized for selected topics.
LIST OF TOPICS INTEGRATED TEACHING: 8TH TERM

1. Development of genital tract - any malformations of genital tract and their clinical significance - Anatomy
2. Fetal physiology - fetal circulation Physiology
3. Fetal malformations - genesis - Embryology
4. CIN Pathology
5. ARF Physiology Medicine
6. Coagulation failure Pathology Medicine
7. Diabetes, heart disease Medicine
8. USG Radiology
9. Infections in pregnancy Microbiology
10. Medico-legal aspects Forensic Medicine
11. Nutrition in pregnancy and lactation PSM
12. Evidence based obstetrics PSM
13. Drugs in pregnancy Pharmacology
SCHEME FOR EXAMINATION FOR FINAL MBBS

EXAMINATION IN OBSTETRICS AND GYNAECOLOGY

Methods – Internal assessment, Theory, Practical and Viva

- Internal assessment: 40 (Theory 20 + Practical 20)

  - Marks of Internal Assessment should be sent to University before the commencement of Theory examination.
  - Passing in internal assessment is essential for passing, as Internal assessment is separate head of passing in examination.
  - It will also be considered for grace marks as per existing rules
  - Combined theory and practical of internal assessment will be considered for passing in internal assessment.
  - Student will be allowed to appear for both theory and practical exam independent of marks obtained in internal assessment but if fails in that head even after including the grace marks he will be declared “Fail in that Subject”

Internal assessment in Theory –

Examinations during semesters: This will be carried out by conducting two theory examinations during 6th and 8th semesters (100 marks each). Total of 200 marks to be converted into 10 marks (A/10)

Prelim examination: This shall be carried out during 9th semester. Two theory papers of 40 marks each as per University examination. Total of 80 marks to be converted into 10 marks (B/10)

Total marks of Internal assessment- Theory will be addition of A and B.
Internal assessment in Practical Examinations at end of Clinical postings:

There will be practical examination at the end of each clinical posting of OBGY. Each examination will be of 50 marks. Total of all exams marks will be converted to 10 marks. (C/10)

Prelim examination:

This will be conducted for 60 marks as per university pattern and marks will be converted to 10 (D/10). Total marks of Internal assessment - Practical will be addition of C and D.

Evaluation Methods - Theory, Practical and Viva

Pattern of theory examination including distribution of marks, questions and time

Pattern of theory examination including distribution of marks
1. There shall be two theory papers - Paper I and II, carrying 40 marks each.
2. Each paper will have three sections, A, B and C. Each paper will be of 2.5 hours duration.
3. Section A will be MCQ in each paper. Section B will have SAQ and Section C LAQ answer sheet.
4. MCQ section A will be given to candidates at the beginning of the examination.
5. After 30 minutes Section A will be collected. Section B & C of paper will then be handed over to candidates

PAPER I

Topics - Obstetrics including social obstetrics and newborn care

Section A : 30 min. duration
- Twenty eight MCQs- /2 mark each : 14 marks
  o Single based response
- MCQ will cover whole syllabus of Paper I

Section B & C : 2 hours duration
Section B - Three /five (SAQ) short notes -4 marks each 12 marks
  o Section C - Two long questions (LAQ) of 7 marks each 14 marks

(will contain some preclinical/Para clinical aspects)
PAPER II:

Topics: Gynaecology, Family Welfare and Demography -

Section A: 30 min. duration
- Separate paper
- Twenty eight MCQs- 1/2 mark each 14 marks
- Single based response
- MCQ will cover whole syllabus of Paper II

Section B & C: 2 hours duration
Section B - Three/five (SAQ) short notes - 4 marks each 12 marks
Section C - Two long questions (LAQ) of 7 marks each 14 marks
(will contain some preclinical/para clinical aspects)

Scheme Of Practical & Oral Examination For Obstetric & Gynaecology

PRACTICAL: Total – 60 Marks

1) LONG CASE: 40 Marks
   A) History 10 Marks
   B) Clinical Exam 10 Marks
   C) Investigations & diagnosis 10 Marks
   D) Management 10 Marks

2) SHORT CASE: 10 Marks
   A) Presentation 05 Marks
   B) Discussion 05 Marks

3) FAMILY PLANNING 10 Marks

Total: 60 Marks

4) ORAL / VIVA 20 Marks
   A) Obstetric Viva 10 Marks
   B) Gynaecology Viva 10 Marks

TOTAL MARKS FOR PRACTICAL & ORAL (60+20) = 80 Marks

Marks of VIVA will be added to Theory marks
It is mandatory to obtain 50% marks in theory+viva/oral.
**REVISED INTERNAL ASSESSMENT EXAMINATION SCHEME w.e.f. JUNE 2007 EXAMINATION**

**YEAR: - Third (I) MBBS**

<table>
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<tr>
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<th>1&lt;sup&gt;st&lt;/sup&gt; Term End</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Term End</th>
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(B) **Calculation Method:**

I) For PSM Theory Marks to be send to the University out of 20

\[ \text{Final Mark} = \frac{(A)+(C)+(E)}{12} = \frac{60+60+120}{12} = \frac{240}{12} = 20 \]

II) For PSM Practical Marks to be send to the University out of 20

\[ \text{Final Mark} = \frac{(B)+(D)+(F)}{4} = \frac{20+20+40}{4} = \frac{80}{4} = 20 \]

III) For Ophthalm & ENT Theory Marks to be send to the University out of 10

\[ \text{Final Mark} = \frac{(A)+(C)+(E)}{8} = \frac{40+0+40}{8} = \frac{80}{8} = 10 \]

IV) For Ophthalm & ENT Practical Marks to be send to the University out of 10

\[ \text{Final Mark} = \frac{(B)+(D)+(F)}{8} = \frac{40+0+40}{8} = \frac{80}{8} = 10 \]
REVISED INTERNAL ASSESSMENT EXAMINATION SCHEME w.e.f. JUNE 2007 EXAMINATION

YEAR: - Third (II) MBBS

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(B) Calculation Method:

I) For Medicine & Surgery Theory Marks to be send to the University out of 30

\[
\frac{\text{(A)}+\text{(C)}+\text{(E)}}{8} = \frac{60+60+120}{8} = \frac{240}{8} = 30
\]

II) For Medicine & Surgery Practical Marks to be send to the University out of 30

\[
\frac{\text{(B)}+\text{(D)}+\text{(F)}}{8} = \frac{60+60+120}{8} = \frac{240}{8} = 30
\]

III) For Obstetrics/Gynecology Theory Marks to be send to the University out of 20

\[
\frac{\text{(A)}+\text{(C)}+\text{(E)}}{8} = \frac{40+40+80}{8} = \frac{160}{8} = 20
\]

IV) For Obstetrics/Gynecology Practical Marks to be send to the University out of 20

\[
\frac{\text{(B)}+\text{(D)}+\text{(F)}}{8} = \frac{40+40+80}{8} = \frac{160}{8} = 20
\]

V) For Pediatrics Theory Marks to be send to the University out of 10

\[
\frac{\text{(A)}+\text{(C)}+\text{(E)}}{8} = \frac{20+20+40}{8} = \frac{80}{8} = 10
\]

VI) For Pediatrics Practical Marks to be send to the University out of 10

\[
\frac{\text{(B)}+\text{(D)}+\text{(F)}}{8} = \frac{20+20+40}{8} = \frac{80}{8} = 10
\]

Note:- For Surgery and Orthopedics Scheme will be as follows, however these marks should be combined and send to the University out of 30.

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SECTION C:

INTERNSHIP PROGRAMME

Internship discipline related and curriculum in family welfare shall be according to norms laid down by Medical Council of India.

SECTION D:

CURRICULAI FOR THE FAMILY WELFARE:

It shall be as per M.C.I. and is included in respective subjects.