MEDICINE

MBBS DEGREE COURSE
&
CURRICULUM

PHASE – III CLINICAL SUBJECTS

Sri Siddhartha
Academy of Higher Education
Deemed-to-be-University
Accredited 'A' Grade by NAAC

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CONTENTS

INTRODUCTION

The Medical Council of India (MCI) revised the M.B.B.S. curriculum. It came into effect from May 1997. Sree Siddhartha University implemented the new regulations for the batches of students admitted to the M.B.B.S course from the academic year 2006-2007 onwards. The present volume pertains to phase III subjects - part I and part II of the course. The part I subjects of phase III consists of continuation of Community Medicine from Phase II, Ophthalmology and Otorhinolaryngology (ENT). The part II subjects are Medicine and allied subjects, Surgery and allied subjects, Paediatrics and Obstetrics & Gynaecology.

The Section I of this volume describes the goals of M.B.B.S. education endorsed by Sree Siddhartha University. The section II gives general objectives specified by MCI regulations on Graduate Medical Education (1997). In section III, the duration of the course, recommendations regarding attendance, internal assessment, distribution of marks for phase III professional examination subjects and criteria for pass are given. The revised course contents, teaching schedule and scheme of examination of phase III part I and part II subjects are detailed in section IV. The section V contains the details of MBBS Internship training programme.The sectionVI deals with the teaching of Medical Ethics in MBBS course. Core values in changing context are described in section VII. Annexure I, is for Internal assessment methods, annexure II for list of Skills and annexure III is for Categories of Bio-MedicalWaste.

SECTION -I

GOALS OF M.B.B.S. COURSE

1) That the medical curriculum should be oriented towards educating students to take up the responsibilities of physicians of first contact. The medical graduate should be capable of functioning independently in both urban and rural environment.
2) Every effort should be made to provide educational experience that allows hands-on-experience both in hospital as well as community setting. For this purpose, a comprehensive list of clinical skill that a graduate must acquire at the end of course including internship has been prepared.
3) That maximum efforts be made to encourage integrated teaching and every attempt be made to de-emphasise compartmentalization of disciplines so as to achieve horizontal and vertical integration in different phases.
4) 1 hat educational experience should emphasise health rather than only disease, and community orientation also instead of only hospital orientation. Population control and family planning should also be given due emphasis.
5) Due importance to be given to teaching common problems of health and disease and to the national programmes.
6) That every effort should be made to use learner oriented methods which would encourage cultivation of logical thinking, clarity of expression, independence of judgment, scientific habits, problem solving abilities, and self-directed learning.
7) Reduction of "didactic lectures (not more than 1/3 of total teaching hours) and increasing use if active methods of learning such as group

discussion seminars, role play, field visits, demonstrations, peer interactions etc. which would enable students to develop personality, communication skills and other qualities which are necessary.

8) Examinations be designed with a view to asses not merely the knowledge but also practical and clinical skills, habits and values which are necessary for a graduate to carry out professional day to day work competently.

9) Regular periodic assessment be done throughout the course for internal assessment. The assessment need not be limited to written tests. It should relate to other items such a maintenance of records, participation in seminars and group discussion, (finical case study proficiency in carrying out practical or clinical skill or participation in projects and assignments (even) during vacation. These be evaluated objectively and recorded.

10) That every medical institution should evolve institutional objectives, which would be in consonance with the national goals (See Section II) and health policy. The institutional objectives should describe the attributes of their product.

11) Shilt in the role of medical teachers from mere imparting knowledge to that of a facilitator and motivator of student learning.

12) 12) That every medical college establishes a medical education unit for faculty development, preparation of learning resource materials and improved evaluation methods.

13) Doctors and other health professionals are confronted with many ethical issues and problems. With advances in science and technology, these problems are on the increase. It is necessary for every doctor to be aware of these problems. The odors should also be trained to analyze the ethical problems as they arise and deal with them in an acceptable manner. It is therefore recommended that teaching of medical ethics be introduced in phase I and continued throughout the course including the internship period.

Sri Siddhartha University endorses these recommendations. It strongly desires that constituent college should implement these while conducting the MBBS course.

SECTION – II

OBJECTIVES OF MEDICAL GRADUATE TRAINING PROGRAMME (MCI Regulations 1997)

The MCI has stated the goals and general objectives of graduate medical education in the new regulations. They are given in this section. It is desired that in consonance with these national goals, each medical college should evolve institutional objectives.

1) NATIONAL GOALS:

At the end of undergraduate programme, the medical student shall endeavour to be able to;

a) Recognise ' health for all' as a national goal and health right of all citizens and by undergoing training for medical profession fulfill his/her social obligations towards realisation of this goal;
b) Learn every aspect of National policies on health and devote himself/ herself to its practical implementations;
c) Achieve competence in practice of holistic medicine, encompassing preventive, curative and rehabilitative aspects common diseases;
d) Develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living;
e) Become exemplary citizen by observation of medical ethics and fulfilling social and professional obligations, so as to response national aspirations.

2) INSTITUTIONAL GOALS:

The undergraduate students coming out of a medical institution should:

a) Be competent in diagnosis and management of common health problems of individual and the community, commensurate with his/ her position as member of the health team at the primary, secondary or tertiary levels, using his/her clinical skill based on history, physical examination and relevant investigations;
b) Be competent to practice preventive, promotive, curative and rehabilitative medicine in respect to the commonly encountered health problems;
c) Appreciate for different therapeutic modalities, be familiar with the administration of the "essential drugs" and their common side effects;
d) Be able to appreciate the social-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the discharging one's professional responsibilities;
e) Possess the attitude for continued self learning and to seek further expertise or to pursue research in any chosen area of medicine; Be familiar with the basic factors, which are essential for the implementation of the National Health Programes.
    i. Family welfare and Maternal and Child Health (MCH),
    ii. Sanitation and water supply,
    iii. Prevention and control of communicable and non-communicable diseases,
    iv. Immunisation,
    v. Health Education;
f) Acquire basic management skill in the area of human resources,

materials and resources management related to health care delivery;

g) Be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating out come of such measures;
h) Be able to work as a leading partner in health care teams and acquire proficiency in communication skills;
i) Be competent to work in a variety of health care settings;
j) Have professional characteristics and attitude required for professional life such as personal integrity, sense of responsibilities and dependability and ability to relate to or show concern for other individuals ;
k) All efforts must be made to equip the medical graduate to acquire the detailed in Appendix B of Medical Council of India Regulations on Medical Education, 1997.
l) Be able to observe medical ethics and to discharge medico legal responsibilities.

3) DEPARTMENTAL GOALS AND OBJECTIVES

These are given in their respective chapters.

SECTION – III

COURSE OF STUDY, SCHEME OF EXAMINATION INCLUDING DISTRIBUTION OF MARKS OF PHASE-III OF MBBS COURSE

1. Course of Study

Every student shall undergo a period of certified study of 4 *Vi* academic years followed by one year compulsory rotating internship after passing final MBBS examination. The 4½ years course is divided into three phases, Phase - I is of I Year, consisting ot two terms of 6 month each, and Phase II is of 1 ½ Years consisting of three terms of 6 months each. Phase III - consists of 7 terms after Phase I. It runs concurrently with Phase II, and during Phase II, para clinical and clinical subjects shall be taught concurrently. Phase III is divided into two parts - Part I and Part II.

The subjects of Phase III Part I are : Community Medicine, Ophthalmology and Otorhmolaryngology (ENT). Concurrently Medicine and allied subjects, Surgery and allied subjects, Obstetrics and Gynecology would be taught during this period.

The subjects of Phase III Part II are: (A) Medicine and its allied specialities include, General Medicine, Paediatrics, Tuberculosis and chest diseases, Dermatology and Sexually Transmitted Diseaes, Psychiatry, Radio-diagnosis, Infectious diseases etc., (B) lhe surgery and its allied specialities include General surgery, Orthopedics Surgery including Physiotherapy and Rehabilitation, Anaesthesia, Dentistry, Radio-therapy and (C) Obstetrics and Gynaecology including family medicine, family welfare planning. The time distribution is given in Table 1 and 2, under Teaching Hours.

2. Attendance

Every candidate shall have attendance not less than 75% of the total classes conducted in theory and practical / clinical separately in each calendar year calculated from the date of commencement of the term to the last working day as notified by the University in each of the subjects prescribed, to be eligible to appear for the University examination (vide Medical Council of India Notification on Graduate Medical Education (Amendment) Regulations 2003, published in the gazette of India Part-III, Section 4, Extraordinary issued on 15th October 2003).

The Principal should notify at the college the attendance details at the end of each term without fail under intimation to the university.

A candidate lacking in the prescribed attendance and progress in any subject(s) in theory or practical/clinical in the first appearance should not be permitted to appear for the examination in that subject(s).

3. Teaching Hours and Hospital Postings

No of teaching hours allotted for various subjects are as under:

Table No: Theory Lectures, Tutorials,, Demonstrations and Seminars etc.,

Subjects	**Hours**
General Medicine	300 Hours
Pediatrics	100 Hours
Tuberculosis & Chest diseases	20 Hours
Psychiatry	20 Hours
Skin ami STO	30 Hours
Community Medicine	320 + 224 Hours*
Anaesthesia	20 Hours
General Surgery	300 Hours
Orthopedics	100 Hours
Ophthalmology^	100 Hours
Otorhinolaryngology (E.N.T)	70 Hours
Radiology (includes Radio-diagnosis & Imaging and Radiotherapy)	20 Hours
Dentistry	10 Hours
Obstetrics and Gynaecology	300 Hours
TOTAI	**1934 Hours**

** Includes practicals, Field Visits & Clinico-Social Case*

Clinical Course : Hospital Postings.

During third to ninth terms, clinical postings of three hours duration daily as specified in the Table 2 is suggested for various departments after introductory course in clinical Methods in Medicine and Surgery of two weeks each for the whole class at the start of 3"' term.

Table 2 : Hospital postings

	Weeks & Terms							Total in Weeks
Subject	3rd	4th	5th	6th	7th	8th	9th	
	II/I	II/II	II/III	III/1	III/II	III/III	III/IV	
Gen. Medicine (a)	6		4	4	-	6	6	26
Paediatrics	-	2	2	2	-	4	-	10
TB & Chest Diseases	-	2	-	-	-	-	-	2
SKIN & STD	-	2	-	2	-	2	-	6
Psychiatry	-	2	-	-	2	-	-	4
Radiology & CT / MRI / USG (b)	-	-	-	-	2	-	-	2
Gen. Surgery	6	-	4	4	-	6	6	26
Orthopedics (c)	-	-	4	4	-	-	2	10
Ophthalmology	-	4	-	2	4	-	-	10
Otorhinolaryngology	-	4	-	-	4	-	-	8
OBG including FWP (d)	2	4	4	-	4	4	6	24
Casualty	-	-	-	2	-	-	-	2
Com. Medicine.	4	4	-	-	4	-	-	12
Dentistry	-	-	-	2	-	-	-	2
TOTAL	18	24	16	22	22	22	20	144

a) This posting includes exposure to laboratory medicine and infectious diseases
b) This posting includes training in Radio-Diagnosjs and Radiotherapy where existent
c) This posting includes exposure to Rehabilitation and Physiotherapy
d) This includes maternity training and the 3"' semester posting shall be in Family Welfare Planning

The period of training suggested is the minimum. Adjustments where required depending upon availability of time be made.

4. Scheme Of Examination

4.1 Internal Assessment

It shall be based on evaluation of assignment, presentation of seminar, clinical presentation etc., (see Annx-I for examples). Regular periodic examinations should be conducted throughout the course. Although the question of number of examinations is left to the institution there should be minimum of at least three (3) sessional examinations during the course and average of the three examination marks should be taken into consideration while calculating the marks of the internal assessment. Day-today records should be given importance in the internal assessment. Proper record of the work should be maintained, which will be the basis of internal assessment of all students and should be available for scrutiny.

Weightage for internal assessment shall be 20% of total marks in the subject.

A student must secure at least 35% of total marks fixed for internal assessment in a particular subject in order to be eligible to appear at the University Examination of that subject.! vide medical council of India notification on Graduate medical Education (Amendment) Regulations 2003, published in the Gazette of India Part III, Section 4, Extraordinary issued on 15"' October 2003.)

Assistant professor and above or lecturer with five years of teaching experience can conduct internal assessment examination.

Theory

Minimum of three examinations is recommended. The examination preceding the University examination may be similar to the University examination. The marks allotted for internal assessment for different subjects is shown in Table 3 and 4. Average marks of three notified internal examinations should be reduced to the marks allotted for internal assessment for each subject and should be sent to the University.

Practical/Clinical

A minimum of one clinical test may be conducted at the end of each ward posting in all the clinical subjects. At least two ward leaving tests in Paediatrics, Orthopedics, Ophthalmology and Otorhinolaryngology and three ward leaving tests in Medicine, Surgery and Obstetrics and Gynaecology are recommended. Second end posting test must include OSCE in addition to clinical test. Average of best two examination marks should be taken into consideration while calculating the marks of the internal assessment.

Assistant Professor and above or lecturer with five years of teaching experience can conduct internal assessment examination.

The internal assessment marks of both theory and practical obtained by the Candidates should be sent to the University at least fifteen days prior to the ommencement of theory examination.

4.2 University Examination - Subjects and Marks

Third Phase Examination :Part I : At the end of Seventh term of Phase III, in the subjects of Ophthalmology, Otorhinolaryngology and Community Medicine.

Third Phase Examination : Part II (Final Professional) - At the end of ninth term of Phase III, in the subjects of Medicine, Surgery, Obstetrics and Gynaecology and Paediatrics.

The distribution of marks for theory and practical / clinical examination for various subjects of Phase III, part-1 and Part II are shown in tables - 3 and 4

4.3 Eligibility to appear in Phase HI Examination

a) Passing in II Phase Examination is not compulsory before entering *for 6"'* term training; however passing of all subjects of **II** Phase Examination is compulsory for being eligible for III Phase Part I examination.

b) Passing in III Phase - Part I examination is not compulsory before entering for 8th and 9th term training, however passing of all subjects of III Phase - Part I examination is compulsory for being eligible for **III** Phase Part II Examination

4.4 Criteria for Pass

For declaration of pass at the University examination, a candidate shall pass both in Theory and Practical/Clinical examinations separately in the same examination, and as stipulated below :

A candidate must obtain 50% in aggregate with a minimum of 50% in theory (including theory-internal assessment and viva-Voce) and a minimum of 50% in practicals/ clinical (including practical/clinical-internal assessment) in each of the subjects (refer table 3 & 4).

NOTE : If the candidate fail to clear the llnd Phase subject within next 6 months. He/She will be detained . He/She will be eligible to go to 7th term only after passing all subjects in llnd Phase.

Table- 3 Distribution of Marks for University Examination of Phase III Part I Subjects

Subjects A. Theory	Community Medicine	Ophthalmology	Otorhinolaryngology
1. Written Paper, No of Papers and Maximum marks for each paper '	2x100 = 200	1x100 = 100	1x100 = 100
2. Viva Voce (Oral Examination)	40	20	20
3. Internal Assessment (Theory)	60	30	30
Total Theory	**300**	**150**	**150**
B. Practical / Clinical			
1. Practical / Clinical	80	80	80
2. Internal Assessment (Practical)	20	20	20
Total Practical /Clinical	100	100	100
Grand Total	**400**	**250**	**250**

Table - 4 : Distribution for University examination of Phase III Part-II Subjects

Subjects A. Theory	Pediatrics	Medicine	Surgery	Obstetrics & Gynecology
1. Written Paper, No of Papers & Maximum marks for each paper*	1x100 =100	2x100 =200	2x100 = 200	2x100 = 200
2. Viva voce (Oral Examination)	20	40	40	40
3. Internal Assessment (Theory)	30	60	60**	60
Total Theory	**150**	**300**	**300**	**300**
B. Practical / Clinical				
1. Practical/Clinical	80	160	160	160
2. Internal Assessment (Practical /Clinical)	20	40	40 **	40
Total Practical / Clinical	100	200	200	200
Grand Total	**250**	**500**	**500**	**500**

***** Note: Written theory paper of University examination should include MCQ section which carries 20% of the total marks for the theory paper.

**** Note:** The Internal Assessment for Surgery shall consist of 45 marks for General Surgery and I 5 marks for Orthopaedics in Theory component and 30 marks for General Surgery and 10 marks for Orthopaedics in clinical component.

Clinical Record Carries 5 Marks

4.5 Declaration of Class :

a. Distinction

A candidate having appeared in all the subjects in the same examination and passes that examination in the First Attempt and secures 75% of marks or more of grand total marks prescribed will be declared to have passed the examination with distinction.

b. First Class

A candidate having appeared in all the subjects in the same examination and passes that examination in the First Attempt and secures 65% marks or more but less than 75% of grand total marks prescribed will be declared to have passed the examination in First Class.

c. Second Class

A candidate having appeared in all the subjects in the same examination and passes that examination in the First Attempt and secures 50% of Marks or more but less than 65% of grand total marks prescribed will be declared to have passed the examination in Second Class.

d. Pass Class

A candidate passing a University Examination in more than one Attempt shall be placed in pass class irrespective of the Percentage of marks secured by him/her in the Examination.

(Please Note fraction of Marks should not be rounded off for classes(a), (b) and (c)).

4.6 Supplementary Examination

Supplementary examination will be conducted within four to six months. The failed student will have to appear in the subsequent year.

SECTION – IV

PHASE III PART I

Subjects :

- Ophthalmology
- Otorhinolaryngology and Head & Neck Surgery (ENT)
- Community Medicine

PHASE III PART II

- Paediatrics
- Medicine & Its Allied Subjects
  - General Medicine
  - Psychiatry
  - Dermatology & STD
  - Pulmonary Medicine
- Surgery & Its Allied Subjects
  - General Surgery
  - Orthopaedics
  - Radio-Diagnosis & Imaging
  - Radio Therapy
  - Anaesthesia
- Obstetrics & Gynaecology

Course of Study, Scheme of Examination

Phase III – Part – I

OPHTHALMOLOGY

Course Description

a) Goals and objectives:

MBBS Student at the end of training in Ophthalmology will be able to :

- Identify the abnormal conditions of the eye.
- Recognise and give medical treatment for those conditions, which are unlikely to cause blindness.
- Recognise and give immediate first aid treatment and arrange for immediate referral in those conditions threatening to produce blindness.
- Describe the national objectives in the prevention of blindness, and be an active participant in the implementation of **N**ational **P**rogramme for **C**ontrol and Prevention of **B**lindness (NPCB).

b) Course contents:

Theory

I. Introduction
II. Basic Sciences

1. Anatomy	Must Know	Desirable
Development of the eye		✓
Coats of the eye	✓	
Blood supply	✓	
Nerve supply of the eye	✓	
Pupillary pathways	✓	
visual pathways	✓	
Extra-ocular muscles	✓	
Ocular motor nerves	✓	

2. Physiology	Must Know	Desirable
Physiology of vision	✓	
Tear film	✓	
Aqueous humor formation.	✓	

3. Pharmacology	Must Know	Desirable
Ophthalmic preparation and routes of administration	✓	
Antibiotics	✓	
Antivirals	✓	
Anti-fungal drugs	✓	
Cycloplegics	✓	
Antiglaucoma drugs.	✓	

4. Pathology	Must Know	Desirable
Histopathology of Retinoblastoma	✓	
Malignant melanoma		✓
Squamous cell carcinoma		✓
Basal cell carcinoma		✓

5. Elementary Optics	Must Know	Desirable
Reflection	✓	
Refraction	✓	
Optical system of Normal eye	✓	
Reduced eye	✓	
Strum's conoid	✓	
Estimation of Refraction		✓

III. DISEASES OF THE EYE

Conjunctiva	Must Know	Desirable
Acute infective conjunctivitis	✓	
Bacterial conjunctivitis	✓	
Purulent conjuctivitis	✓	
Ophthalmia neonatorum	✓	
Membraneous conjunctivitis.	✓	
Chlamydial conjunctivitis - Trachoma.	✓	
Viral conjunctivitis.	✓	
Allergic conjunctivitis: Simple, Phlyctenular, Vernal.	✓	
Conjunctival Degenerations: Ptcrygium, Pinguecula, Concretions.	✓	
Chronic conjunctivitis	✓	
Inclusion conjunctivitis		✓
Pseudomembranous conjuctivitis		✓
Mucocutaneous diseases affecting conjunctiva		✓
Conjunctival tumours.		✓

CORNEA	Must Know	Desirable
Corneal ulcer - Etiology, clinical features complications and treatment of bacterial viral and fungal conical ulcers	✓	
Vitamin A deficiency and keratomalacia	✓	
Exposure keratitis	✓	
Neuroparalytic keratitis	✓	
Interstitial keratitis	✓	
Basics of Eye donation and Keratoplasty	✓	
Other forms of deep keratitis		✓
Degenerations and dystrophics of cornea		✓
Keratoconus.	✓	
Kerato-refractivc surgery.		✓

SCLERA	Must Know	Desirable
Clinical features and differential diagnosis investigations & treatment of Episcleritis and Scleritis	✓	
Scleromalacia performs		✓
Blue sclera		✓

UVEAL TRACT	Must Know	Desirable
Classification of Uveitis Acute anicrior uveitis - aetiology clinical features, complications differential diagnosis and management.	✓	
Purulent uveitis - Endophthalmitis, Pan-Ophthalmitis	✓	
Association of systemic diseases in uveitis		✓
Chronic uveitis		✓
Cyclitis		✓
Posterior uveitis		✓
Degenerative changes in the uveal tract		✓
Congenital anomalies - Coloboma of Iris and Choroid.		✓

LENS	Must Know	Desirable
Classification of cataract	✓	
Senile cataract : Aetiology, clinical features Evaluation, differential diagnosis, Surgical management of cataract, and complications of cataract surgery(ECCE, SICS)	✓	
Aphakic corrections - Intra-ocula implantation	✓	
Types of IOL	✓	
Congenital cataract	✓	
Types	✓	
Awareness of Amblyopia	✓	
Assessment and early reference.		✓
Degeneration and opacities		✓
Other forms of cataract – Complicated, Traumatic Metabolic, Toxic and After cataract	✓	
Recent surgery - phacoemulsification	✓	

VITREOUS	Must Know	Desirable
Vitreous detachment		✓
Asteroid hyalosis		✓
Synchysis Scintillans		✓
Vitreous haemorrhage - causes and treatment	✓	

GLAUCOMA	Must Know	Desirable
Classification	✓	
Angle closure glaucoma - Risk factors, mechanism clinical features and management.	✓	
Differential diagnosis of Red Eye	✓	
Open angle glaucoma - Risk factors, cardinal signs Medical and surgical treatment Differential diagnosis	✓	
Congcntial glaucoma - Clinical feature, management.	✓	
Secondary glaucomas - Lens induced, Inflammatory Neovascular, Traumatic, Intraocular tumours drug induced	✓	

RETINA	Must Know	Desirable
Fundus changes – Hypertension, Toxaemia of pregnancy, Renal diseases, Haematological diseases, AIDS, Myopia	✓	
Diabetic Retinopathy - Risk factors, assessment treatment role of LASER'S	✓	
Retinal vascular diseases-CRAO,CRVO,Eale's disease	✓	
Retinal detachment: Risk factors, clinical features, Rx	✓	
Retinal degeneration -Retinitis pigmentosa, Familial lipid degenerations.	✓	
Retinal infections - Toxoplasma, Toxocara, CMV.		✓
Other: Phacomatosis.		✓
Retinoblastoma - Clinical features and treatment differential diagnosis of leucocoria	✓	
Malignant melanoma - Clinical features and treatment		✓

OPTIC NERVE	Must Know	Desirable
Papilloedema : Aetiology and fundus picture differential diagnosis	✓	
optic neuritis / Papillitis: Aetiology and fundus picture	✓	
Retrobulbar neuritis	✓	
Optic atrophy - Primary, Secondary Vascular, Glaucomatous	✓	
Toxic amblyopia	✓	
Optic nerve coloboma.		✓

SQUINT	Must Know	Desirable
Classification	✓	
Types	✓	
Aetiology	✓	
Assessment		✓
Differentiation of paralytic and non paralytic squint	✓	
Principles of management of concomitant squint.		✓
Awareness of Amblyopia, assessment & early reference		✓

ORBIT	Must Know	Desirable
Causes of proptosis	✓	
Orbital cellulites - Clinical features and treatment		✓
Cavernous sinus thrombi		✓
Common tumours of the orbit		✓

LACRIMAL SYSTEM	Must Know	Desirable
Causes of Epiphora	✓	
Aetiology, Clinical features, Complications and Management of congenital and acquired acute and chronic Dacryocystitis.	✓	
Dry Eye - Diagnosis and management.	✓	

LIDS	Must Know	Desirable
Inflammations - Blepharitis, Hordeolum	✓	
Anomalies in the position - Trichiasis Entropion, Ectropion, Symblepharon Ankyloblepharon, Lagophthalmos, Ptosis	✓	
Tumours of the lids		✓

REFRACTIVE ERRORS	Must Know	Desirable
Types	✓	
Clinical presentation & optical correction of Myopia, Hypermetropia, Astigmatism	✓	
Presbyopia	✓	
Aphakia	✓	
Anisometropia	✓	
Anisokonia	✓	
Anomalies of Accommodation & Convergence.	✓	

INJURIES	Must Know	Desirable
Perforating injuries : Mechanical effects Immediate and late complications including Sympathetic ophthalmitis and Endophthalmitis Immediate management and referral	✓	
Contusion injuries : Mechanical effects delayed complications and referral	✓	
Chemical bums, Immediate first-aid Assessment and referral.	✓	
Other forms of injuries - industrial Retained intraocular foreignbody		✓
Medico Legal Aspects of Injuries		✓

OPHTHALMIC SURGERY	Must Know	Desirable
Cataract surgery	✓	
Anti-glaucoma operations.	✓	
Enucleation, Evisceration, Exenteation	✓	
Dacryocystectomy & DCR	✓	

COMMUNITY OPHTHALMOLOGY	Must Know	Desirable
Definition and types of blindness.	✓	
Causes of blindness.	✓	
Objectives of NPCB and Trachoma control project	✓	
Organisation of Ophthalmic screening and cataract surgery camps	✓	
Vision 2020	✓	
SAFE Strategy	✓	

MISCELLANEOUS	Must Know	Desirable
Ocular causes of headache	✓	
Symptomatic disturbance of vision	✓	
Hemianopia	✓	
Amblyopia	✓	
Amaurosis	✓	
Night blindness	✓	
Colour blindness,	✓	
World blindness	✓	
Malingering.	✓	
Ocular emergencies - trauma, chemical bums Acute congestive glaucoma, panophthalmitis Sudden loss of vision	✓	
Investigative Ophthalmology - Ophthalmic ultrasound, Computerised visual field testing, ERG, VEP, CT Scan.		✓
Recent advances - types and uses of lasers in Ophthalmology	✓	

SYSTEMIC DISEASES AFFECTING EYE	Must Know	Desirable
Connective tissue diseases – SLE, Rheumatoid arthritis, Marfan's syndrome, downs syndrome…		✓
Infectious – TB, Leprosy, syphilis		✓
Drug induced - Steven jhonson syndrome		✓
Sarcoidosis		✓
Multiple sclerosis		✓

SKILLS

CLINICAL EXAMINATION SKILLS

- Visual acuity test
- Use of pinhole.
- Colour vision test.
- Confrontation visual field test.
- Cover test.
- Ocular motility test.
- Assessment of Corneal sensation - Wick test
- Corneal surface - Placido's disc.
- Corneal ulcer - Fluorescein staining.
- Assessment of AC depth.
- Pupillary size and reaction.
- Distant Direct Ophthalmoscopy for lens opacities.
- Direct Ophthalmoscopy.

PROCEDURES

- Instillation of eye drops
- Irrigation of conjunctival sac.
- Ophthalmic patch and bandage.
- Epilation of eye lashes.
- Eversion of upper eye-lid.
- Use of Lid retractors to examine infant's eyes *
- Lacrimal syringing test *
- Digital tonometry
- Use of Schiotz tonometer *
- Removal of extraocular foreign body *
- Sub-conjunctival injection *

* These procedures are for observation only.

Teaching Schedule

Suggested distribution of period according to the topics to be taught.

Period of Clinical postings	10 weeks
During II Phase	6 weeks
During III Phase - I term	4 weeks
* Total hours of theory teaching.....	100 hours

Didactic lectures (1 hour duration) twice a week during phase - III , I term – 28

Small group discussion (session of 3 hrs) afternoon session during Phase-III I term – 72

Sl. No	Topics	Lectures (28 hrs)	Tutorials (72 hrs)	Clinics (180hrs)
1.	Basic Sciences	2	1 session	4 session
2.	Diseases of conjunctiva	2	2	4
3.	Diseases of cornea and sclera	2	2	6
4.	Diseases of Uvea	2	2	4
5.	Diseases of Lens	2	2	6
6.	Glaucoma	2	2	6
7.	Diseases of Retina and Vitreous	2	1	2
8.	Diseases of Optic Nerve	1	1	2
9.	Squint and neuro-ophthalmology	2	1	2
10.	Diseases of Orbit	1	1	2
11.	Diseases of eye-lids	1	1	6
12.	Diseases of lacrimal apparatus	1	1	2
13.	Refractive errors & Presbyopia	1	2	2
14.	Ocular injuries	1	1	2
15.	Community Ophthalmology	2	1	2
16.	Miscellaneous ▪ Ocular neoplasms. ▪ Ocular emergencies ▪ Ocular Pharmacology. ▪ Ocular surgeries ▪ Recent Advances ▪ Systemic diseases (T.B., Syphilis, Leprosy) ▪ D/D of red eye etc.	4	3	8
Total		28hrs	24 sessions (24x3=72hr)	60 session (60x3=180)

Scheme of Examination

Internal Assessment

Theory: 30 marks

There shall be al leas: three theory examination. The marks obtained should be reduced to 30 and sent to the university.

Clinical: 20 marks

Clinical examination which shall be held at the end of each clinical posting The marks obtained for clinical examination should be reduced to 20 and sent to the university.

University Examination

Written Paper

Theory one paper. Duration = 3 hours. Maximum marks = 100

The type of questions and distribution of marks shall be

Long Essay questions	2 x 10 marks	= 20
Short Essay questions	10 x 5 marks	= 50
Short Answers	10 x 3 marks	= 30
	Total	**= 100 marks**

Clinical Examination

Clinical Examination of	2 cases (2 x 40)	80 marks
Viva-voce		20 marks

Recommended Books

1. Stephen JH Miller. Parson's Diseases of the Eye, Churchill Livingstone Pvt. Ltd.

2. Keith Lyle, May *6c* Worth's Manual of Diseases of the Eye, CBS Publishers & Distributors, New Delhi.

3. Khurana AK, Ophthalmology, New Age International (P) Ltd., New Delhi.

4. Khurana AK, Practical Ophthalmology, New Age International (P) Ltd., New Delhi.

5. Vasudev Aanand Rao, Text Book of Diseases of the Eye, All India Publishers and Distributors, Chennai.

6. Chatterjee BM, Handbook of Ophthalmology, CBS Publishers and Distributors, New Delhi.

7. Agarwal ML, Gupta LC, Sanjeev Agarwal, Ophthalmology for Undergraduate Students, Jaypee Brothers, New Delhi.

8. J Kanaski, Clinical Ophthalmology, Reed Education & Professional Publishing.

9. Gupta AK, Usha K Raina, Aloke Gupta, TextBook of Ophthalmology, B. I. Churchill Livingston , New Delhi.

OTORHINOLARYNGOLOGY- HEAD AND NECK SURGERY

Goals

The student has adequate knowledge and skill in otorhinolaryngology to identify what common conditions and emergencies he can treat and what he has to refer. He is able to detect hearing impairment early and knows the principles of rehabilitation. His skill levels are high for early detection of head and neck malignancies.

Objectives

A. Knowledge

At the end of the course the student should:

1. Have adequate knowledge of anatomy and physiology of the ear nose and throat and head and neck
2. Describe the pathophysiology of common ear nose and throat diseases and emergencies
3. Be able to suggest common investigative procedures and interpret the results of the investigation
4. Adopt a rationale use of commonly used drugs keeping in mind their adverse reactions
5. Identify congenital deafness as early as possible
6. Identify head and neck malignancies early

B. Skills

1. Examine and diagnose common ENT problems including head and neck malignancies
2. Skilled in otoscopy
3. Manage ENT problems at the primary care level and refer when needed
4. Assist in minor surgical procedures like ear syringing, foreign body removal in the ear and nasal packing
5. Assist in tracheotomies and cricothyrotomy

C. Integration

The under graduate training in ENT will provide an integrated approach towards other disciplines especially neurosurgery, ophthalmology and general surgery

Course contents

A. Knowledge (italics indicate topics that are desirable to know)

Diseases of the ear	Must Know	Desirable to know
Surgical anatomy of external middle and inner ear	✓	
Physiology of hearing and vestibular function	✓	
Symptomatology of ear diseases	✓	
Examination of ear including otoscopy	✓	
Types of deafness, causes and its management	✓	
Diseases of the external ear : Deformities of pinna, perichondritits, otitits externa , cerumen, foreign body, keratosis obturans, skull base osteomyeilitis, myringits		
Diseases of middle ear: Acute otitis media, chronic otitis media, otitis media with effusion, otosclerosis	✓	
Audiometry and tympanometry, Brain stem evoked audiometry, otoacoustic emission	✓	
Functional examination of the vestibule : Caloric test, electronystagmography, positional nystagmus test		
Hearing impairment and rehabilitation in children including hearing aids, cochlear implants	✓ ✓	
Meniere's disease		
Complications of otitis media both extra and intracranial	✓	
Principles of mastoid surgery and tympanoplasty		
Tumours of the ear – Glomus jugulare and acoustic neuroma	✓	✓
Facial nerve - course, facial nerve paralysis-causes, diagnosis and management		
Management of tinnitus		✓

Diseases of nose and Para nasal sinuses	Must Know	Desirable to know
➢ Surgical anatomy and physiology of nose and Para nasal sinuses including olfaction	✓	
➢ Congenital diseases of nose, cleft lip and palate, choanal atresia		✓
➢ Trauma to the facial skeleton - nasal bone fractures and maxillofacial fractures	✓	
➢ Foreign bodies in the nose	✓	
➢ Diseases of external nose - furuncle, vestibulitis rhinophyma, basal cell carcinoma	✓	
➢ Systemic diseases affecting nose - rhinoscleroma,. TB, syphilis	✓	
➢ Allergic rhinitis	✓	
➢ Non allergic rhinitis including atropic rhinitis	✓	
➢ Diseases of nasal septum - septal deviation, perforation, septal surgery, rhinoplasty	✓ ✓	
➢ Epistaxis - causes, investigation and management	✓	
➢ Rhinosinusitis- causes, investigation, management, complications		
➢ Sinonasal polyposis	✓	
➢ Functional Endoscopic Sinus Surgery (FESS)	✓	
➢ CSF rhinorhoea		✓
➢ Tumours of the nose and Para nasal sinuses	✓	

Diseases of the nasopharynx	Must Know	Desirable to know
➢ Surgical anatomy and physiology of nasopharynx Adenoids - clinical features, diagnosis and management Nasopharyngeal carcinoma - clinical features, diagnosis and management Nasopharyngeal angiofibroma - clinical features, diagnosis and management	✓	

Diseases of the pharynx	Must Know	Desirable to know
➢ Surgical anatomy and physiology of the oral cavity, oropharynx, tonsils, and Waldeyer's ring	✓	
➢ Anatomy of neck spaces	✓	
➢ Diseases of the oral cavity including malignancies	✓	
➢ Diseases of the tonsil- Tonsillitis, adenotonsillar hypertrophy, Vincent's angina,	✓	
➢ Diphtheria- clinical features, diagnosis and management	✓	
➢ Malignant tumours of the oropharynx	✓	
➢ Neck space infections - retropharyngeal, parapharyngeal, peritonsillar abcess and Ludwig's angina	✓	
➢ sleep apnoea		✓

Surgical anatomy and physiology of salivary glands	Must Know	Desirable to know
➢ Sialadenitis. Salivary calculi, tumours of sailvary gland Diseases of larynx	✓	

Surgical anatomy and physiology of larynx including phonation	Must Know	Desirable to know
➢ Laryngotracheal trauma and tracheal stenosis	✓	
➢ Acute and chronic laryngitis	✓	
➢ Laryngeal paralysis	✓	
➢ Tumours and larynx and laryngopharynx	✓	
➢ Foreign bodies of the airway including bronchoscopy	✓	
➢ Stridor	✓	✓
➢ Management of obstructed airway		
➢ Disorders of speech and voice		
➢ Surgical anatomy physiology and diseases of the thyroid gland		✓

Oesophagus	Must Know	Desirable to know
➢ Anatomy of oesophagus and physiology of deglutition ➢ Symptomatology of oesophageal diseases - investigations and management ➢ Diseases of oesophagus - congenital atresia, motility disorders, GERD, strictures of oesophagus, neoplasms, achalasia cardia.	✓ ✓ ✓	

Miscellaneous	Must Know	Desirable to know
➢ LASER in ENT, ➢ Chemotherapy and radiotherapy In head and neck malignancies		✓

Skills

The student should be skilled at	perform independently	under guidance	assisted	observed
Using head mirror	✓			
Using different ENT instruments and examine OPD patients	✓			
Using the otoscope	✓			
Performing tuning fork tests	✓			
Performing ear toilet and do syringing		✓		
Analysis of audiograms and tympanograms	✓			
Perform vestibular function tests like spontaneous nystagmus, positional tests and interpreting ENG		✓		
Tests for nasal patency	✓			
Establishing and maintaining airway in emergency			✓	
After care of tracheostomy		✓		
Perform indirect laryngoscopy and posterior rhinoscopy		✓		
Foreign body removal from ear and nose		✓		
Perform anterior and posterior nasal packing		✓		
Tracheostomy				✓
Septoplasty				✓
Adenotonsillectomy				✓
Myringoplasty and myringotomy				✓
Mastoidectomy				✓
Oesophagoscopy				✓

Teaching hours

Theory: 70 hours: 2 classes per week in VI and VII term **Clinical postings:** 8 weeks- 4 weeks in VI and 4 weeks in VII term

SCHEME OF EXAMINATION

A. Internal assessment:

Theory- 30 marks

1. 1st theory examination at the end of VI term, 2nd theory examination at the end of VII term and
2. 3rd theory examination of full portions before the university examination

Marks for theory examination- 100 marks (Average of the 3 internals reduced to 30 marks to be sent for the university exams)

Pattern of theory examination

1. 2X10 marks (long essay) = 20
2. 5 X 12 marks (short essay) = 60
3. 20 X 1 (multiple choice) = 20

Total = 100 marks.

Clinical examination - 20 marks

1. One examination at the end sixth and one at the end of seventh term (15 marks for case presentation and 5 marks for log book with 10 cases written)
   (Both exams to be conducted on the last day of the four week clinical posting).
2. Third clinical exam before the final exam

Average of the three exams to be sent as final internal assessment marks

B. University examinations

Theory - 100 marks

1. 2 x10 marks(long essay) = 20
2. 10 x 5 marks(short essay) = 50
3. 10 x 3 Short Questions = 30

Total = 100 marks

Minimum to pass - 50 marks

Clinical examination - 100 marks

2 cases of forty marks each = 80 marks
Viva voce -20 marks (10 marks for instruments and viva + 10 marks for X-rays and viva)

Recommended books

1. Text book of otorhinolaryngology and head and neck surgery; Geethachary; Ahuja publications; edition 1; 2009.

2. Short practice of otolaryngology; K.K Ramalingam; All India publishers and distributors; Chennai.

3. Text book of ENT diseases; Mohamed Maqbul; 11th edition; Jaypee publishers

4. Diseases of ear, nose and throat; PL Dhingra; 4th Edition; Elsevier publishers

5. Textbook of ENT, Bhargava, 5th edition, Usha publications

Reference books

1. Scot Brown's otolaryngology and head and neck surgery, 7 edition, Edited by Michael Gleeson, Hodder Arnold publications, UK

COMMUNITY MEDICINE

The overall aim of teaching by the Department of Community Medicine is -directed towards preparing medical student to function as a Community and Primary Care Physician.

A) Goals

1) To produce doctors who are well aware of the physical, social, psychological, economic and environmental aspect of health and disease.
2) To enable the student to apply the clinical skills to recognize and manage common health problems including their physical, emotional and social aspects at the individual, family and community levels and deal with public health emergencies.
3) To make the student realize the role of doctor as a team leader.

B) Objectives

To achieve this he/she will be able to:

a) Organize elementary epidemiological studies to assess the health problems in the area.
b) Prioritize the most important problems and help formulate a plan of action to manage them under National Health Programme guidelines including population control and family welfare program. (He/She should be able to assess and allocate resources, implement and evaluate the programmes).
c) Demonstrate knowledge of principles of organizing prevention and control of communicable and non-communicable diseases.
d) Organize health care service for special groups like mother, infants, under five children and school children, handicapped, adolescents and geriatrics, rurai, tribal and urban slum dwellers.
e) Organize health care in case of calamities.
f) Inculcate values like compassion, empathy, honesty, sincerity and integrity to ensure high quality ethical professional practice.
g) Work as an effective leader of the health team within the primary health care set-up.
h) Coordinate with and supervise other members of the health team and maintain liaison with various agencies. (Government, non-government and voluntary organizations)
i) Plan and implement health education programmes.
j) Perform administrative functions of health centers.
k) Promote community participation especially in areas of disease control, health education and implementation of national programmes.
l) Aware of national priorities and the goal to be achieved to implement primary health care including health for all.
m) Understand different types of Bio-medical waste, their potential risks and their management.

C) COURSE CONTENTS:

Phase	Theory (In hours)			Practical (in hours)		
	Lectures	Seminars	Tutorials	Practicals	Field Visits	Clinico Social
Phase - 1	90	—	—	—	10	—
Total	90			10		
Phase -II	40	20	—	60	40	—
Total	60			100		
Phase-111	20	120	30	45	24	45
Total	170			114		
Grand Total	320			224		

PHASE I : Ist& IInd TERM

1. Introduction to Community Medicine & Evolution of Community Medicine (History) 15 hrs

a) Evolution of public Health
b) Definition of health & concepts of health
c) Health indices and health determinants
d) Health profile of India
e) Medical Ethics

2. Social Medicine 30 hrs

a) Introduction and history of Community Medicine
b) Meaning with definition and scope of medical sociology
c) Basic concepts of sociology: Society, Community, Association, Institution etc.
d) The study of family
e) Rural community- Characteristics & health problems
f) Urban Community- Characteristics & health problems
g) Social factors in health and disease h) Medico- social worker
h) Culture and health
i) Leadership in health

3. Fundamentals of Bio-statistics 30 hrs

a) Introduction to basic statistics
b) Data - Types, Collection and Presentation
c) Simple statistical methods for the analysis of data
d) Frequency distribution
e) Measures of central tendency
f) Measures of variability
f) Standard error
g) X^2 test, 't' test etc
h) Common sampling techniques

4. Demography & Vital statistics **15 hrs**

a) Definition of demography and stages of demographic cycle
b) Concept of demographic gap and population explosion
c) Definition, calculation and interpretation of demographic indices like birth rate, death rate, fertility rates etc.
d) Need for the population control measures and the national population policy

5. Field visits to field practice area. (Three visits)

TOTAL - 90 HRS LECTURE + 10 HRS FIELD VISITS

PHASE II : IST & 2nd TERM

1. Nutrition and Health and Dietetics **10 hrs**

Introduction :

Common Nutritional Disorders

i) Iron deficiency
ii) Iodine deficiency
iii) Vitamin A deficiency
iv) PEM
v) Fluorosis
vi) Food toxicants and PFA Act :
vii) National programmes related to nutrition
viii) Nutritional surveillance
ix) Nutrition Education
x) Nutritional Rehabilitation

2. Environment and Health **15 hrs**

a) Concept of safe and wholesome water
b) Sources of water
c) Purification of water on large scale and small scale
d) Water standards for assessing quality of water (WHO guideli
e) Water pollution
f) Solid waste- Sources, collection and disposal
g) Liquid waste (sewage and sullage) - Disposal
h) Housing standards and effect of poor housing condition.
i) Air pollution
j) Noise pollution
k) Radiation hazards

3. Basic principles of epidemiology **5 hrs**

a) Concepts of health & disease. Agent, host and environment (epidemiological triad)
b) Natural history of disease and application of intervention at various levels of prevention with examples
c) Definition of Epidemiological terms and modes of disease transmission
d) Measures for prevention and control of Communicable and Non-communicable diseases

4. Communicable diseases **20 hrs**

a) Respiratory infections :ARI, TB, Measles, Diphtheria and whooping cough, SARS, Avian Influenza (Bird Flu)
b) Gastro- intestinal :Polio myelitis, viral hepatitis, diarrhea, Cholera, helminthes
c) Vector borne diseases : Malaria, Filaria, Dengue and Chickungunya
d) Surface infections : STDs ,HIV, Tetanus, Leprosy
e) Zoonoses : Rabies, JE, Plague, KFD, Leptospirosis

5. **Non- Communicable diseases.** **10hrs**

a) CHD (Coronary Heart Disease)
b) Hypertension and stroke
c) Diabetes mellitus and obesity
d) RHD (Rheumatic heart disease)
e) Cancers
f) Accidents
g) Blindness

THEORY = LECTURES + SEMINARS = 40 + 20 **60 hrs**

PRACTICAL / FIELD VISITS

PHASE II / Ist TERM

1. Nutrition **40 hrs**

a) Classification and Sources of various foods
b) Nutritional significance of food
c) Nutritional values of various food items.
d) Food toxicants and adulterants etc.
e) Dietary allowances- child, adult, pregnancy, lactation, old age
f) Nutrition problems
g) Milk problems

PHASE II/IInd TERM

2. Entomology **20 hrs**

a) Vectors of Medical importance: Mosquito, housefly, fleas, ticks etc.
b) Integrated Vector Control
c) Insecticides

PRACTICAL TOTAL HOURS **60 hrs**

3. Fields visits (Rural / Urban field practice area)

1. Primary Health Centre
2. Sub Centre
3. Leprosy hospital
4. Milk Dairy
5. Orphanage
6. Old age home
7. Blind school, Deaf & Dumb School
8. Family Visit (Follow up)

Visit to Rural area to study:

1. Assessment of housing condition
2. Water supply, sewage, sullage & refuse disposal
3. Assessment of socio-economic & nutritional status of family
4. Anganwadi
5. Sewage treatment plant and incinerator
6. Water works
7. Under fives' clinic

FIELDS VISITS **40 hrs**

PHASE MI III/I & III/II

1. Basic principles of epidemiology-II **20 hrs**

a) Uses of basic epidemiological tools
b) Principle sources of epidemiological data.
c) Definition, calculation and interpretation of measures of frequency of disease and mortality
d) General principles of epidemiology
e) Epidemiological studies: Descriptive, Case control, Cohort & RCT
f) Investigation of an epidemic
g) Screening for diseases.

2. MCH and family welfare **30 hrs**

a) Family Planning.
b) Maternal & Child Healthf MCH)
c) Indicators of MCH Care
d) Reproductive &Child Health Programme
e) ICDS
f) MTP Act and PNDT Act (Prenatal diagnostic technique)
g) School health services: objectives, services and activities,
h) Handicapped children
i) Geriatrics: Health problems of aged and prevention, care and welfare

3. Occupational health & social security. **20 hrs**

a) Introduction to Occupational Health & Ergonomics
b) Physical hazards
c) Chemical hazards
d) Biological hazards
e) Radiation hazards
f) Employees State Insurance Act & Legislations related to occupation.
g) General preventive measures against occupational diseases including industrial accident prevention.

4. Urban Health : Common health problems of urban slum dwellers, Organization of services for slum dwellers in urban areas etc. **4 hrs**
5. National programmes, Health Policies, Public Health Laws **30 hrs**
6. IEC, HiS (Health information system) and Health Education **10 hrs**
7. Mental health **5 hrs**
8. Health planning, management and health economics **10 hrs**
9. Health care of the Community, voluntary and non-governmental organizations **5 hrs**
10. International health **5 hrs**
11. Hospital waste management **5hrs**
12. Disaster management **3 hrs**

13. Genetics and Health **3 hrs**

14. Topics on Communicable & Non Communicable Diseases,
Recent Advances etc. (Seminars) 30 hrs
Theory Total = Lecture + Seminars + Tutorials - *20* + 120 + 30 170 hrs

Teaching methodology:

a. Lecture
b. Seminar
c. Tutorials
d. Case Based Teaching
e. Group discussions
f. Quiz
g. Integrated Teaching
h. Debate etc

Phase III/I & III/II

1. Practicais

1. MCH and Family planning methods
2. Immunization with cold chain
3. Water problems
4. Essay type problems (I, II, III Practicais)
5. Statistical problems (I & II)
6. Helminthes and drugs
7. Health information system: Birth certificate, death certificate, census form etc.
8. Health education materials: Pamphlets, flash cards, flip charts etc.
9. Insecticides and Disinfectants
10. Nutrition problems
11. Milk problems
12. Occupational safety devices and environmental health models

PRACTICAL TOTAL **45 hrs**

2. Clinico- Social Case discussion **45 hrs**

3. Field visits **24 hrs**

1. Study of antenatal case
2. Study of an infant
3. Study of pre -school child
4. Study of post natal case
5. Study of school going child & adolescent
6. Study of a case of diarrhoea/ARI

Phase-III

1. Project work
2. Health Education / Role play (III / I)
3. Health Exhibition (Once a year) {UG s + Interns + PG s}

SKILLS :

PART - I : General Skills

The student should be able to :

1) Elicit the clinico - social history to describe the agent, host and environmental factors that determine and influence health.
2) Recognize and assist in management of common health problems of the community.
3) Apply elementary principles of epidemiology in carrying out simple epidemiological studies in the community.
4) Work as a team member in rendering health care.
5) Carry out health education effectively for the community.

PART - II: Skills in relation to specific Topic

1) Communication :

a) The student should be able to communicate effectively with family members at home, patients at clinic or at home.
b) The student should be able to communicate effectively with an individual, family or a group for health education and peers at scientific forums.

2) Team activity : Work as a member of the health team, in planning and carrying out field work like school health.

3) Environmental sanitation : Collect water and stool samples for microbiological evaluation.

4) Communicable and non - communicable diseases (including social problems) :

a) Elicitng clinico-social history and examining the patients for diagnosis and treatment.
b) Assessing the severity and /or classifying conditions such as dehydration in diarrhea, upper respiratory tract infection, dog-bite, leprosy etc.
c) Adequate and appropriate treatment and follow-up of leprosy, malaria, filariasis, rabies, upper respiratory tract infections, diarrhea and dehydration.
d) Advise on the prevention and prophylaxis of common diseases like vaccine preventable diseases, tetanus, malaria, filariasis, rabies, cholera, typhoid and intestinal parasites.

5) Maternal and Child Health

a) Antenatal examination of the mother ; application of risk approach in antenatal care.
b) Postnatal assessment of mother and new born, advice on appropriate family planning method, promotion of breast feeding, advice on weaning and immunization
c) Assessment of growth and development of child - use of road to health card, immunization of the child and identifying high risk infants.
d) Skills in vaccine management including cold chain.

6) Statistics

a) Simple random sampling techniques.
b) Apply appropriate tests of significance to make a correct inference.
c) Sample analysis and presentation of data.
d) Calculation of various health indices.
e) Calculation of relative and attributable risks.
f) Calculation of sensitivity, specifity and predictive values of screening test.

7) Nutrition

a) Conducting a diet survey.
b) Community survey and clinical diagnosis of nutritional deficiencies like nutritional anemia vitamin A deficiency, iodine deficiency and protein energy malnutrition.
c) Making recommendation regarding diet.

8) Occupational Health

a) Inspection of work sites.
b) Recommendations in improving work sites.
c) Supervision of workers and programmes.

9) Health Management

a) Be an effective team leader.
b) Guide and train workers.
c) Supervision of workers and programmes.

10) Managerial

a) Organize antenatal and under fives' clinic.
b) To conduct meetings.
c) Review of records.
d) Principles of supervision.

Teaching hours

(A)	Theory	**330 hours**
(B)	Practical, Clinico-social case discussion and Field visits	**224 hours**

D) SCHEME OF EXAMINATION

INTERNAL ASSESSMENT: Total Marks 80 (Theory - 60 and Practicals -20)

Theory:

- Minimum three theory examinations are recommended in IInd and IIIrd phase. The 7th term examination preceding the university examination may be similar to the pattern of university examination.
- Average of best two performances in the notified internal examination be taken into consideration for calculating the-internal assessment marks.

Theory Examination (60 marks)

i.	Internal assessment	: Theory	30 Marks
ii.	Day to Day activities	:	30 Marks

Distribution of Internal Assessment Marks.

Theory (average of best 2 exams)		30 marks
Block posting		10 marks
Seminar		10 marks
Project work .		05 marks
Family visits		05 marks
Total	=	60 Marks
First Internal Assessment	=	II Phase I Term
Second Internal Assessment	=	II Phase II Term
Third Internal Assessment	=	III Phase I Term
Preliminary Examination	=	III Phase II Term

Average of best two theory examination marks obtained are reduced to fourty marks and the other twenty marks are allotted for day to day activities. The total internal assessment marks for theory and practicals will be sent to the University 15 days prior to the university examination.

Practicals **(20 Marks)**

- A minimum of three practical tests to be conducted
- Best of two tests is reduced to 10 marks.
- **Five marks** to be allotted for records
- OSCE/OSPE 05 marks
- The total marks obtained to be sent to the University.

Practicais:

I[st] internal Exam	= II Phase II Term
IInd Internal Exam	= End of Clinico - Social Posting (Second)
IIIrd internal Exam	= Preliminary Exam Phase III/II Term

Total Internal Marks for Practicals: 20

*Note : A student shall secure at least 35% of Internal Assessment marks separately in Theory & Practical in order to be eligible to appear for the Final University Examination.

II) University Examination

Theory:

The examination for community medicine will be held at the end of Phase-III Part-I.

There shall be two papers, each carrying 100 marks.

Each paper shall be of 3 hours duration.

The pattern of Question paper will include three types of questions as follows.

Type of Questions	Number of Questions	Marks for each Questions	Total
Long Essay	2	10	20
Short Essay	10	5	50
Short Answers	10	3	30
Total Marks			**100**

Distribution of topics in Paper I and Paper II, for the university examination is given below:

Paper 1: **100 Marks**

Evolution of public health and concepts of health and disease, basic epidemiology environment and health, genetics and health , bio-medical waste management, health education, nutrition and dietetics, occupational health, medical sociology , mental health and bio-statistics .

Paper II: **100** Marks

Epidemiology of specific diseases: communicable and non- communicable diseases, demography and family planning, reproductive and child health, school health, geriatrics, urban health, health system in India, health planning & management including disaster management, international health.

Chapter wise distribution of type of questions and marks will be as under * :

PAPER - I

Chapter / Topic	Type and No. of Questions	Marks
MCQ	25 questions X 1 mark	**25**
Concepts of Health & Disease, Principles of Epidemiology and Epidemiologic studies, Nutrition and Health,. Occupational Health, Communication for Health Education, Environment and Health	Long Essay 2 questions X 10 marks	**20**
Concepts of Health & Disease, Principles of Epidemiology and Epidemiologic studies, Nutrition and Health, Occupational Health, Communication for Health Education Screening for Disease, Health programmes in India, Environment and Health, Genetics and Health, mental Health, Hospital waste management, Health information and biostatistics, Man & Medicine, Social Sciences and Health.	Short Essay 8 questions X 5 marks	**40**
Concepts of Health & Disease, Principles of Epidemiology and Epidemiologic studies, Nutrition and Health, Occupational Health, Communication for Health Education Screening for Disease, Health programmes in India, Environment and Health, Genetics and Health, mental Health, Hospital waste management, Health information and b/ostatistics, Man & Medicine, Social Sciences and Health.	Short Answers 5 Questions X 3 Marks	**15**
TOTAL		**100**

PAPER-II

Chapter / Topic	Type and No. of Questions	Marks
MCQ	25 questions X 1 mark	25
Epidemiology of Specific Diseases - Communicable Diseases & Non-communicable Diseases, Family Planning, MCH, Health system in India, School Health Services.	Long Essay 2 questions X 10 marks	20
Epidemiology of Specific Diseases - Communicable Diseases & Non-communicable Diseases, Family Planning , MCH, Health system in India, School Health Services, Demography, Geriatrics, Health Planning & Management, Disaster Management, International Health, Urban Health	Short Essay 8 questions X 5 marks	40
Epidemiology of Specific Diseases - Communicable Diseases & Non-communicable Diseases, Family Planning, MCH, Health system in India, School Health Services, Demography, Geriatrics, Health Planning & Management, Disaster Management, International Health, Urban Health	Short Answers 5 Questions X 3 Marks	15
TOTAL		**100**

* The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.

Note : A candidate shall secure at least 50% of marks in theory aggregate.

B. Practicals **80 marks**

1. Problems 30 marks
2. Clinico social 30 marks
3. Spotters 20 marks

C. Viva-Voce **40 Marks**

Entire syllabus

Note : A candidate shall secure at least 50% of marks in Practical aggregate.

TOTAL MARKS IN SUBJECT (COMMUNITY MEDICINE):

	Theory					Practicals / Clinicals			
Subject	Paper 1	Paper II	Internal Assessment	Viva Voice	Total	Practical Examination	Internal Assessment	Total	Grand Total
Community Medicine	100	100	60	40	300	80	20	100	400

Note: A student shall secure 50% in subject aggregate.

RECOMMENDED TEXT BOOKS FORUNDER GRADUATES
(Latest editions)

Sl. No.	Name or the Textbook	Authors	Publisher
1	Epidemiology And Management for Health Care for All	Sathe. P. V; Sathe. A.P	Popular Prakashan Pvt. Ltd. Mumbai
2	National Health Programmes of India	Kishore. J	Century Publication New Delhi
3	Principles of Community Med in no	Sridhar Rao. B	AITBS Publishers and Distributors
4	Text Book of Preventive And Social Medicine	Park J E & K. Park	M/s. Banarsidas Bhanot, Jabalpur
5	Text Book Of Preventive And Social Medicine	Mahajan B K and M.C. Gupta	jaypee Publications
6	Essential Preventive Medicine	Ghai O. P; Gupta P	Vikas Publication house Pvt. Ltd
7	Text Book of Community Medicine	Bhaskar Rao T	Paras Publication
8	Text Book Of Community Medicine	Sunderlal, Aclarsh, Pankaj	CBS Publishers and Distributors, New [.Delhi and Bangalore

Course of Study, Scheme of Examination

Phase III – Part – II

PAEDIATRICS

PEDIATRICS INCLUDING NEONATOLOGY

A. GOALS

The course includes systematic instructions in the management of common diseases of infancy and childhood, evaluation of growth and development, nutritional needs and immunization schedule in children. Social pediatrics and counseling is also dealt in the course. The aim of teaching for undergraduate medical students is to impart appropriate knowledge and skills to optimally deal with major health problems and also to ensure optimal growth and development of children.

B. OBJECTIVES:

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

1. Describe normal growth and development during foetal, neonatal, child and adolescence period.
2. Describe the common pediatric disorders and emergencies in terms of epidemiology, etiopathogenesis, clinical manifestations, diagnosis, rational therapy and rehabilitation.
3. State age related requirements of calories, nutrients, fluids, drugs etc. in health and disease.
4. Describe preventive strategies for common infectious disorders, poisonings, accidents and child abuse.
5. Out line National Programs relating to child health including immunization programmes.

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

1. Take a detailed pediatric history, conduct an appropriate physical examination of children including neonates, make clinical diagnosis, conduct common bedside investigative procedures, interpret common investigation results, plan and institute therapy.
2. Distinguish between normal newborn babies and those requiring special care and institute early care to all the newborn babies including care of preterm and low birth weight babies.
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 line and provide nasogastric feeding.
4. Would have observed procedures such as lumbar puncture, liver and kidney biopsy, bone marrow aspiration, pleural tap and ascetic tap.
5. Provide appropriate guidance and counciling breat feeding.
6. Provide ambulatory care to all sick children, indentify indications for specialized / inpatient care and ensure timely referral of those who require hospitalization.
7. Be aware and analyse ethical problems that arise during practice and deal with them in an acceptable manner following the code of ethics.

INTEGRATION:

The training in pediatrics 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 a team in an integrated form with other disciplines eg., Anatomy, physiology, Forensic medicine, Community Medicine, Physical Medicine and Rehabilitation.

C. COURSE CONTENTS

GENERAL PEDIATRICS NEONATOLOGY

Sl. No.	Name Of The Topic	Must Know	Desirable to know
1	Growth and Development. (Basic Concepts) Part I (Definition, factors & criteria, growth from birth to puberty etc.	✓	
2	Growth and Development part - II (Normal Developmental Milestones, Assessment & Screening Tests)	✓	
3	Failure to thrive (an approach)	✓	
4	Neonatal Nomenclature, Definitions & Classification	✓	
5	Childhood mortality and morbidity (IMR, PMR, NMR etc.)	✓	
6	Care of the Normal Newborn baby	✓	
7	Gestational Age Assessment.	✓	
8	Breast Feeding and Lactation failure	✓	
9	Infant and young child Feeding	✓	

NUTRITION IN PAEDIATRICS

Sl. No.	Name Of The Topic	Must Know	Desirable to know
10	Normal Nutritional requirements : General Concepts :(Carbohydrates, Proteins, fats, minerals, trace elements etc.)		
11	Fat soluble Vitamins : Vitamin 'A' and 'E'	✓	
12	Fat soluble Vitamins : Vitamin 'D' and 'K'	✓	
13	Water soluble Vitamins : Vitamin B-Complex	✓	
14	Water soluble Vitamins : Vitamin 'C	✓	
15	Protein Energy Malnutrition Part-I.	✓	
16	Protein Energy Malnutrition Part-II	✓	
17	Nutritional Rickets in Children	✓	

INFECTIONS IN CHILDREN

Sl. No.	Name Of The Topic	Must Know	Desirable to know
18	Infectious Diseases in Children (Measles, Mumps and Rubella)	✓	
19	Infectious Diseases in Children (Diphtheria)	✓	
20	Infectious Diseases in Children (Pertussis & Tetanus)	✓	
21	Infectious Diseases in Children (Chicken Pox)	✓	

22	Enteric Fever in Children. (Typhoid).	✓	
23	Malaria in Children	✓	
24	Pulmonary Tuberculosis in Children	✓	
25	Extra-pulmonary Tuberculosis (Except Abdominal & CNS)	✓	
26	Common Helminthic Infestations	✓	
27	Tape Worm Infestations	✓	
28	Kala-azar and Filariasis in Children		✓
29	Amoebiasis and Giardiasis in Children	✓	
30	Leprosy in Children		✓
31	Principle and Practice of Immunization.	✓	
32	Categories of Vaccines, Cold Chain etc.	✓	
33	Immunization Schedule, Newer & Combination Vaccines.	✓	
34	Management of Primary Immunodeficiency Disorders.	✓	

RESPIRATORY SYSTEM

Sl. No.	Name Of The Topic	Must Know	Desirable to know
35	Acute Respiratory Infections & ARI Control Programme.	✓	
36	Pneumonias in Children.	✓	
37	Bronchial Asthma in Children.	✓	
38	Abdominal Tuberculosis in Children.	✓	
39	Suppurative Lung Disorders in Children.	✓	
40	Acute Bronchiolitis in Children.	✓	
41	Bronchiectasis in Children.	✓	
42	Drowning and Near Drowning.	✓	

GASTROINTESTINAL AN

Sl. No.	Name Of The Topic	Must Know	Desirable to know
43	Acute Diarrheal Disorders in Children.	✓	
44	Chronic Diarrhea in Children.		✓
45	Acute Abdominal pain in Children.	✓	
46	Chronic Abdominal pain in Children.		✓
47	Hepato-splenomegaly (A practical diagnostic approach)	✓	
48	Infective Hepatitis in Children.	✓	
49	Ascites and Portal Hypertension in Children.	✓	
50	Cirrhosis of Liver in Children.	✓	✓

KIDNEY AND URINARY SYSTEM

Sl. No.	Name Of The Topic	Must Know	Desirable to know
51	Urinary Tract Infections in Children.	✓	
52	Acute Glomerulo Nephritis in Children.	✓	
53	Nephrotic Syndrome in Children.	✓	
54	Acute Renal Failure in Children.		✓
55	Mass Per Abdomen (Wilm's Tumor and Neuroblastoma).		✓

CARDIOVASCULAR SYSTEM

Sl. No.	Name Of The Topic	Must Know	Desirable to know
56	Congenital Heart Diseases (Acyanotic).	✓	
57	Congenital Heart Diseases (Cyanotic)	✓	
58	Foetal Circulation.	✓	
59	Acute Rheumatic Fever.	✓	
60	Rheumatic Heart Diseases in Children.	✓	
61	Congestive Cardiac Failure & Infective Endocarditis in Children	✓	
62	Myocardiopathies in Children.		✓
63	Cardiac Arrhythmias in Children.		✓

HEMATOLOGY

Sl. No.	Name Of The Topic	Must Know	Desirable to know
64	Nutritional Iron Deficiency Anemia in Children.	✓	
65	Nutritional Megaloblastic Anemia in Children	✓	
66	Hemolytic Anemias in Children.	✓	
67	Bone Marrow Failure in Children (Aplastic Anemia)		✓
68	Hemophilia in Children.	✓	
69	Ideopathic Thrombocytopenic Purpura.	✓	
70	Disseminated Intravascular Coagulation (DIC)		✓

MALIGNANT DISORDERS

Sl. No.	Name Of The Topic	Must Know	Desirable to know
71	Acute Lymphatic Leukaemias in Children.	✓	
72	Lymphomas in Children (Hodgkin's & Non-Hodgkins)		✓
73	Wilm's Tumor and Neuroblastoma in Children.	✓	
74	Bone Marrow Transplant.		✓

ENDOCRINOLOGY

Sl. No.	Name Of The Topic	Must Know	Desirable to know
75	Evaluation of Short Stature	✓	
76	Pitutary Harmone Disorders.		✓
77	Congenital Hypothyroidism.	✓	
78	Iodine Deficiency Disorders & Goiter.	✓	
79	Hyperthyroidism in Children.		✓
80	Juvenile Diabetes	✓	
81	Disorders of Puberty.		✓
82	Adrenal Harmone Disorders		✓
83	Obesity in Children.		✓

NEUROLOGICAL DISORDERS

Sl. No.	Name Of The Topic	Must Know	Desirable to know
84	Acute Poliomyelitis in Children	✓	
85	Tubercular Meningitis in Children,	✓	
86	Pyogenic Meningitis in Children.	✓	
87	Encephalitis & Encephalopathy in Children.	✓	
88	Febrile Convulsions in Children.	✓	
89	Epilepsy in Children.	✓	
90	Infantile Tremor Syndrome		✓
91	Hydrocephalous	✓	
92	Microcephaly.	✓	
93	Cerebral Palsy.	✓	
94	Mental Retardation	✓	
95	Flopy Infant.	✓	
96	Intra cranial Space occupying Lesion.		✓

COMMON PEDIATRIC SURGICAL PROBLEMS

Sl. No.	Name Of The Topic	Must Know	Desirable to know
97	Cleft Lip and Palate, Congenital Hypertrophic Pyloric Stenosis.	✓	
98	Hernias in Children(Inguinal, Umbilical & Diaphragmatic)	✓	
99	Tracheo Esophagial Fistula.		✓
100	Intestinal Obstruction & Intussuception	✓	
101	Obstructive Uropathies.		✓
102	Biliary Atresia.		✓
103	Hirschsprungs Disease (Congenital Megacolon)		✓
104	Anorectal Anomalies and Rectal Prolapse		✓

GENETIC DISORDERS

Sl. No.	Name Of The Topic	Must Know	Desirable to know
105	Common Genetic Disorders(Down's).	✓	
106	Unborn errors of metabolism.		✓
107	Genetic Counseling.		✓

ADOLESCENT CARE

Sl. No.	Name Of The Topic	Must Know	Desirable to know
108	Adolescent Care and Family Life Education.		✓
109	Adolescent Nutrition.		✓

NEONATOLOGY

Sl. No.	Name Of The Topic	Must Know	Desirable to know
110	High Risk Pregnancy and Neonate.		✓
111	Birth Injuries and Birth Asphyxia.		✓
112	Neonatal Infections and Septicemia.	✓	
113	Management of Prematurity & Low Birth Weight Babies.	✓	
114	Post term and Large for Date Babies.	✓	
115	Jaundice in the Newborn Babies	✓	
116	Infant of Diabetic Mother.	✓	
117	Respiratory Distress Syndrome.	✓	
118	Neonatal Seizures.	✓	
119	Congenital syphilis.	✓	
120	Neonatal Hypoglycemia.	✓	
121	Neonatal Hypocalcemia.	✓	
122	Management of Bleeding Neonate.	✓	
123	Sudden Infant Death Syndrome.		✓
124	Nasocomial Infections		✓
125	Neonatal Shock Syndrome.		✓
126	Machanical Ventilation.		✓
127	Neonatal Hyperthermia.	✓	
128	Neonatal Necrotizing Enterocolitis.		✓
129	Transport of the Sick Neonate.		✓

PEDIATRIC EMERGENCIES

Sl. No.	Name Of The Topic	Must Know	Desirable to know
130	Pyrexia of Unknown Origin	✓	
131	Dengue Fever & Dengue Hemorrhagic Fever.	✓	
132	Reye's Syndrome.	✓	
133	Fluid and Electrolyte Balance.	✓	
134	General Management of Poisoning in Children	✓	
135	Kerosene Poisoning in Children.	✓	
136	Organic Phosphate Poisoning.		✓
137	Aspirin and Paracetamol poisoning		✓
138	Iron Salt Poisoning in Children.		✓
139	Snake Bite and Scorpion Sting in Children.	✓	

COMMUNITY PEDIATRICS

Sl. No.	Name Of The Topic	Must Know	Desirable to know
140	ICDS [Integrated Child Development Services]	✓	
141	MCH [Maternity and Child Health Programme]	✓	
142	BFHI [Baby Friendly Hospital Initiative]	✓	
143	RCH [Reproductive Child Health]	✓	
144	National Health Programmes	✓	
145	IMNC [Integrated management of Neonatal & Childhood Illness Strategy	✓	

MISCELLANEOUS AND UNCLSSIFIED

Sl. No.	Name Of The Topic	Must Know	Desirable to know
146	Juvenile Chronic Arthritis	✓	
147	Muscular Dystrophies [Pseudohyper4trophic]		✓
148	Metabolic Myopathies		✓
149	Juvenile Delinquency.		✓
150	Child Abuse and Neglect.		✓
151	Child Adoption.		✓
152	Breath holding Spell and Enuresis	✓	
153	Communication skills and Counseling the parents		✓
154	Ethical considerations in Pediatric Practice.		✓
155	Hospital waste Management		✓

TOPICS FOR INTEGRATED TEACHING

01. Management of Coma.
02. Nutritional Anemias
03. High risk Pregnancy and Neonate
04. Foetal and Post natal development
05. Malaria
06. Tuberculosis
07. Cerebral Palsy
08. Jaundice.

DEMONSTRATIONS

01. **IMMUNIZATION** : Administration of Vaccines, National Immunization Schedule, Individual Vaccines. Newer Vaccines. Pulse Polio and cold Chain.
02. Gastroenteritis : DTU Mangement
03. Bronchial Asthma management.
04. Resuscitation of the Newborn
05. Developmental Assessment
06. Nutritional Exhibition
07. X-Ray Reading
08. PEDIATRIC PROCEDURES :
    a. Injections giving in Pediatric Practice.
    b. Intravenous Infusions
    c. Lumbar Puncture
    d. Bone Marrow Aspiration.
    e. Abdominal Paracentesis
    f. Liver Biopsy
    g. Kidney Biopsy h. Gastric Lavage
    h. Tracheal Intubation
    i. Assisted Ventilation.
    j. Thoracentesis
    k. Subdural Tap
    l. Cardiac Resuscitation
    m. Laboratory Examination of: Blood, Urine, Stools and CSF

B. TEACHING : THEORY AND CLINICAL POSTTNGS

THEORY : Total number of Theory Hours : 100
CLINICAL : Total Clinical Postings :12 Weeks
4th / 6th / 7th TERM 06 WEEKS
8th and 9th TERM 06 WEEKS.

C. SCHEME OF EXAMINATION : [INTERNAL ASSESSMENT]

TOTAL MARKS : 50.
THEORY : 30 Marks
CLIN1CALS : 20 Marks

THEORY: 30 Marks

Minimum 03 [THREE] internal examinations are recommended. The 9th Term Examination Preceding the University Examination, may be similar to the pattern of University Examination. The average of all the three examinations are considered. The total marks reduced for 30 and Send to the University.

CLINICALS : 20 Marks

The Clinical internal assessment will be conducted at the end of each postings i.e., 03 [Three] Clinical internal assessment examinations. The marks obtained in the clinical examinations to be Reduced to the average of 20 marks and send to the University.

The internal assessment marks both Theory and Clinicals, obtained by the candidates should be Sent to the University at least 15 days prior to the commencement of the University Theory Examination.

NOTE: The student shall secure at least 38% marks of the total marks fixed for internal assessment for both Theory and Practicals / Clinicals in a particular subject in order to be eligible to appear in the final University Examination.

UNIVERSITY EXAMINATION : THEORY [WRITTEN PAPER]

There shall be One Paper of 03 Hours duration carrying 100 Marks

THE PATTERN OUESTIONS:

1.	Long Essay Question. *****	***** 02 X 10 Marks	=	20 Marks
2.	Short Essay Questions. ****	***** 10 X 05 Marks	=	50 Marks
3.	Short Answer Questions.***	***** 10X03 Marks	=	30 Marks

5. TOTAL MARKS FOR THEORY PAPER: 100 Marks

CLINICAL EXAMINATION : TOTAL MARKS 80

TWO CLINICAL CASES : EACH CASE 40 MARKS

SUGGESTED CASES FOR CLINICAL EXAMINATION:

- Protein Energy Malnutrtion, Kwashiokar, Marasmus.
- Meningitis / Meningitic Sequelae
- Cerebral Palsy
- Hemiplegia.
- Rheumatic Fever / Rheumatic Heart Disease [MS, MR, AR, Carditis]
- Congenital Heart Diseases. [ASD, VSD, PDA, Tetrology of Fallot]

- Juvenile Chronic Arthritis
- Pneumonias
- Suppurative Lung Disease.
- Empyema
- Hepato-splenomegaley
- Congenital Hypothyroidism
- Nutrtional Anaemias
- Hemolytic Anaemias
- Assessment of Dehydration
- Assessment of Growth & Development in a Normal Child.
- Jaundice in the Newborn
- Low Birth Weight Babies
- Normal Newborn Care
- Poliomyelitis

VIVA - VOCE [ORAL QUESTIONS] MARKS :20

01. Questions on Nutrtion
02. Questions on X - Ray Reading
03. Questions on Drugs
04. Questions on Instruments / Equipments

TEXT BOOKS RECOMMENDED

01. Indian Academy of Pediatrics [IAP] Text Book of Pediatrics. 4th Edition 2009. Editor-in-Chief, A.Parthasarathy, Jaypee Publication

02. Ghai Essential Pediatrics, Eitor-O.P.Ghai, 7th Edition 2009, CBS Publishers & Distributers PVT. Ltd.. New Delhi.

03. The Short Text Book of Pediatrics, Suraj Gupte, 11th Edition 2009, Jaypee Publication.

04. Achar's Text Book of Pediatrics, Editor-Swarna Rekha Bhutt, 4th Edition 2009 Universities Press Publication.

05. Care of the Newborn - Meharban Singh, 7* Edition, Sagar Publishers & Distributors, New Delhi.

06. Hutchison's Clinical Methods. 20th Edition Reprint

07. Meharban Singh Clinical Methods 13* Edition.

BOOKS FOR SELECTED READING

01. Nelson Text Book of Pediatrics, Beharman-18th Edition Harcourt Saunders & Company.
02. Forfar & Arneil's Text Book of Pediatrics, ELBS Edition
03. Rudolf Text Book of Pediatrics
04. Avery's Disease of the Newborn
05. Roberson's Text Book of Neonatology

MEDICINE & ALLIED SPECIALTIES

Objectives:

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

1. Elicit clinical history, perform thorough physical examination, elicit physical signs, interpret findings, develop differential diagnoses and request relevant laboratory investigations.
2. Diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, lifestyle diseases, tropical and environmental diseases.
3. Plan relevant diagnostic and investigative procedures and be able to interpret them.
4. Outline the principles of management and prevention of common health problems affecting the community.
5. Plan and write prescription for comprehensive treatment using the principles of rational drug therapy
6. Provide first level care for common medical conditions and emergencies and recognize the timing and level of referral, if required.
7. Perform essential bedside procedures like venepuncture, SC and IM injections, biological fluid examinations.
8. Assist common bedside procedures like pleural aspiration,bone marrow aspiration and biopsy , lumbar puncture etc.

a) Resuscitate a patient efficiently by providing Basic Life Support in emergencies
b) Develop an interest in the care for all types of patients.
c) Evaluate each patient as a person in society and not merely a collection of organ systems or symptoms and signs.
d) Discern the hopes and fears of patients, which underlie the symptom complexes and know how to handle these emotions, both in himself / herself and others.
e) Demonstrate skills in documentation of case details including epidemiological data.
f) Respect-patients' rights and privileges including patients' right to information and-right to seek a second opinion.
g) Demonstrate empathy and humane approach towards patients and their families and respect their sensibilities.
h) Demonstrate communication skills in interviewing patients, providing explanations to patients and families about the management and prognosis, providing counseling and giving health education messages o patients, families and communities.
i) Have an open attitude to the developments in Medicine so as to be aware of the need to keep abreast of new knowledge.
j) Learn and adopt new ideas and new situations where resources may be limited.
k) Comprehend, accept and manage the uncertainties in scientific knowledge and medical practice!
l) Understand the ethical and legal implications of his/her medical decisions.

COURSE CONTENT

Topics	Must know	Desirable to know
1. Clinical Methods in the Practice of Medicine Clinical approach to patients:		
The art of medicine, doctor-patient relationship, communication skills, doctor's responsibilities	✓ ✓	
Clinical approach to disease and care of patients:	✓	
Clinical diagnostic reasoning i.e. diagnostic possibilities based on interpretation of history, physical findings and laboratory investigations	✓ ✓	
Principles of rational management:		
keeping in mind the best evidence in favour of or against different remedial measures (EBM)	✓	
2. Common Symptoms of Disease		
Pain: pathophysiology, clinical types, assessment and management	✓	
Fever: clinical assessment and management	✓	
Cough, chest pain, dyspnoea, hemoptysis	✓	
Edema, anasarca, ascites	✓	
Pallor, jaundice	✓	
Bleeding .	✓	
Anorexia, nausea and vomiting .	✓	
Constipation and diarrhea	✓	
Hematemesis, malena and hematochezia	✓	
Common urinary symptoms- dysuria, pyuria, anuria, oliguria, polyuria, nocturia, enuresis	✓	
Body pains and,joint pains	✓	
Headache, seizures, fainting, syncope, dizziness, vertigo	✓	
Disturbances of consciousness and coma	✓	
Weight loss and weight gain	✓	
Clinical genetics- common types, clinical presentation, investigation and prevention of genetic diseases' and genetic counselling	✓	✓
Medial disorders and pregnancy	✓	
3.Nutrition and Nutritional Disorders		
Nutritional assessment & needs	✓	
Protein energy malnutrition	✓	
Obesity	✓	
Vitamin deficiency &. Excess	✓	
Mineral deficiency and excess	✓	
Diet therapy	✓	

Topics	Must know	Desirable to know
4. Fluid, Electrolyte and Acid-base Imbalance		
Fluid and electrolyte balance; acidosis and alkalosis in particular relevance to diarrhea, vomiting, dehydration, uremia and diabetic ketoacidosis	✓	
5. Poisonings, Stings and Bites		
General approach to the poisoned patient	✓	
Poisoning by specific pharmaceutical agents- organophosphorus compounds, methyl alcohol, narcotics, aluminium phosphide, sedatives/ hypnotics, other poisonings common locally, other pesticides Drugs of misuse and substance abuse	✓	
Snake bite and Envenomation	✓	
Other bites and stings - scorpion, spider	✓	
6. Specific Environmental and Occupation Hazards		
Heatstroke and hypothermia	✓	
Drowning and near drowning	✓	
Electrical injuries	✓	
Radiation injury	✓	
Heavy metal poisoning:	✓	
7. Immune Response and Infections		
Approach to infectious diseases - diagnostic and therapeutic principles		
Immune defence mechanisms	✓	
Laboratory diagnosis of infections	✓	
Principles of immunization and vaccine use	✓	
Immunodeficiency disorders - acquired	✓	
Immunodeficiency disorders - congenital	✓	
Clinical syndromes - diagnostic and therapeutic approach		
➢ The febrile patient	✓	
➢ Fever and rash	✓	
➢ Fever of unknown origin	✓	
➢ Intra-abdominal infections and abscesses	✓	
➢ Acute infectious.diarrhoeal diseases and food poisoning	✓	
➢ Sexually transmitted diseases -overview & clinical approach	✓	
➢ Infections of skin, muscle & soft tissues	✓	
➢ osteomyelitis	✓	
➢ Hospital acquired infections	✓	
➢ Infections in immuno-compromised hosts	✓	
➢ Septicaemia	✓	

Topics	Must know	Desirable to know
8. Specific Infections - Epidemiology, clinical features, laboratory diagnosis, rational use of antimicrobial therapy against the following and their prevention:		
Protozoal infections	✓	
Amoebiasis, Giardiasis, Malaria, Leishmaniasis Trichomoniasis ,filaria	✓	
Toxoplasmosis, Trypanosomiasis	✓	
Bacterial infections :		
Common gram positive infections	✓	
Common gram-negative infections	✓	
Enteric fevers	✓	
Tetanus	✓	
Pertussis and diphtheria	✓	
Legionella infections	✓	
Botulism	✓	
Gas gangrene, other Clostridia infections	✓	
Cholera	✓	
Shigellosis and bacillary dysentery	✓	
Brucellosis	✓	
Plague .	✓	
Leptospirosis	✓	
Donovanosis (Granuloma inguinale)	✓	
Helicobacter Pylori	✓	
Infections due to pseudomonas & other gram- negative bacteria	✓	
Anaerobic infections	✓	
Mycobacterial diseases		
Tuberculosis	✓	
Leprosy	✓	
Viral infections		
Common exanthemata e.g.Measles, mumps, rubella, varicella	✓	
Herpes simplex and herpes zoster	✓	
Influenza and other common viral respiratory infections [Swine flu, SAARS, Bird flu]	✓	
Human immunodeficiency virus (HIV)	✓	
Viral gastroenteritis	✓	
Denguefever , Chickenguniya	✓	
Rabies	✓	
Viral encephalitis	✓	
Infectious mononucleosis	✓	

Topics	Must-know	Desirable to know
Rickettsia		
Mycoplasma & Chlamydial diseases	✓	
Infections in immunocompromised host		
Common fungal infections e.g.Candidiasis, Aspergillosis, Histoplasmosis, Cryptococcosis,Mucormycosis, Pneumocystis carinii	✓	
Common worm infestations e.g. hookworm, roundworm, thread worm,tapeworm	✓	
9. Cardiovascular system		
Clinical examination of the cardiovascular system	✓	
Functional anatomy, physiology and investigations	✓	
Major manifestations of cardiovascular disease		
Chest pain, breathlessness, palpitation, Acute circulatory failure (cardiogenic shock) Presyncope and syncope, Cardiac arrest and sudden cardiac death, Abnormal heart sounds and murmurs	✓	
ECG, x ray chest with reference to common CVS diseases	✓	✓
Acute and chronic congestive cardiac failure	✓	
Rheumatic fever and rheumatic heart disease	✓	
Valvular heart disease	✓	
Infective endocarditis	✓	
Coronary artery disease	✓	
Common congenital heart disease in the adults: ASD,VSD,PDA,TOF and coarctation of aorta	✓	
Cor pulmonale	✓	
Hypertension and hypertensive heart disease	✓	
Common cardiac arrhythmias	✓	
Deep vein thrombosis, Pulmonary embolism	✓	
Atherosclerosis and peripheral vascular disease	✓	
Pericardial disease: pericardial effusion and cardiac tamponade	✓	
Aortic aneurysm	✓	
Myocarditis and cardiomyopathy	✓	
10. Respiratory system		
Clinical examination of the respiratory system	✓	
Respiratory physiology and diagnostic investigations - x ray chest, sputum examination, pulmonary function tests	✓	
Bronchoscopy		✓
Major manifestations of lung disease		
Cough, dyspnoea,chest pain, haemoptysis, the solitary radiographic pulmonary lesion, Acute and chronic respiratory failure	✓	
Upper respiratory infections	✓	
Pneumonias	✓	

Topics	Must know	Desirable to know
Bronchial asthma	✓	
Chronic obstructive pulmonary disease	✓	
Pulmonary tuberculosis: different presentations	✓	
Suppurative lung diseases: bronchiectasis, lung abscess	✓	
Pleural diseases - effusion, empyema, pneumothorax	✓	
Interstitial and infiltrative lung diseases	✓	
Common occupational lung diseases	✓	
Tumours of the bronchus and lung	✓	
Pulmonary vascular diseases	✓	
• Pulmonary hypertension	✓	
• Pulmonary thromboembolism	✓	
Acute respiratory distress syndrome	✓	
Obstructive sleep apnoea	✓	
Diseases of the nasopharynx, larynx and trachea	✓	
Diseases of the mediastinum, diaphragm and chest wall	✓	
11. Renal and genito-urinary system		
Renal physiology and common renal function tests: urine examination, renal function tests, common imaging methods	✓	
Major manifestations of renal and urinary tract disease : Dysuria, pyuria, urethral symptoms, disorders of urine volume, hematuria, proteinuria, oedema, incontinence, obstruction of the urinary tract	✓	
Acute renal failure	✓	
Chronic renal failure	✓	
Urinary tract infections and pyelonephritis	✓	
Congenital abnormalities of the kidneys and urinary system	✓	
&Glomerulonephritis and nephrotic syndrome	✓	
Tubulo-interstitial diseases	✓	
Renal involvement in systemic disorders	✓	
Drugs and the kidney	✓	
Renal vascular diseases	✓	
Urinary tract calculi and nephrocalcinosis	✓	
Tumours of the kidney and genitourinary tract	✓	
Renal replacement therapy: basics		✓

Topics	Must know	Desirable to know
12. Gastrointestinal tract		
Clinical examination of the abdomen	✓	
Basic investigations: stool examination, role of imaging, endoscopy and tests of functions	✓	
Major manifestations of gastrointestinal disease		
Abdominal pain (acute and chronic), dysphagia, dyspepsia, vomiting, constipation, diarrhoea, abdominal lump, weight loss, gastrointestinal bleeding-upper and lower, approach to the patient with gastrointestinal disease	✓	
Diseases of the mouth and salivary glands - oral ulcers, candidiasis, parotitis	✓	
Diseases of the oesophagus - GERD, other motility disorders, oesophagitis, carcinoma oesophagus	✓	
Diseases of the stomach and duodenum-gastritis, peptic ulcer disease, tumours of stomach	✓	
Disease of the small intestine		
Acute gastroenteritis & food poisoning , acute, sub-acute and chronic intestinal obstruction, intestinal tuberculosis	✓	
Inflammatory bowel disease	✓	
Malabsorption syndrome :	✓	
Tumours of small intestine	✓	
Disorders of the colon and rectum		
Bacillary dysentery, amoebic colitis .ulcerative colitis	✓	
Tumours of the colon & rectum ,irritable bowel disease	✓	
Abdominal tuberculosis :peritoneal,nodal, gastrointestinal	✓	
Ischaemic gut injury	✓	
Anorectal disorders	✓	
Diseases of the peritoneal cavity :acute and chronic peritonitis, ascites	✓	
13 . Disease of pancreas		
Acute and chronic pancreatitis	✓	
Tumours of pancreas	✓	
14. Hepatobiliary tract disease		
Clinical examination of the abdomen for liver and biliary disease	✓	
Functional anatomy, physiology , liver function tests, basics of role of imaging of the hepatobiliary disease	✓	
Major manifestations of .liver disease	✓	
Asymptomatic abnormal liver function tests	✓	
➢ Jaundice	✓	
➢ Acute (fulminant) hepatic failure	✓	

Topics	Must know	Desirable to know
➢ Portal hypertension and ascites	✓	
➢ Hepatic (porto-systemic encephalopathy)	✓	
Hepatorenal failure	✓	
Liver abscess-amoebic & pyogenic	✓	
Acute and chronic hepatitis -viral and toxic, interpretation of viral markers	✓	
Alcoholic liver disease	✓	
Cirrhosis of liver and chronic liver disease	✓	
Fatty liver and non alcoholic steatohepatitis	✓	
Infiltrative diseases of liver	✓	
Acute and chronic 'cholecystitis', cholelithiasis Tumours of gall bladder and bile ducts	✓	
15. Endocrine and Metabolic disorders		
Diabetes mellitus: aetiopathogenesis, diagnosis, management, recognition of acute and chronic complications, and immediate management of acute complications , special problems in management	✓	
Hypo and hyperthyroidism - major manifestations, recognition, interpretation of thyroid function tests	✓	
Iodine deficiency disorders	✓	
Cushing's syndrome and Addison's disease- recognition	✓	
Pituitary disorders: Acromegaly and Sheehan's syndromes	✓	
Calcium and phosphorus metabolism: parathyroid and metabolic bone Disease	✓	
Hypogonadism	✓	
Hypopituitarism and hyperpituitarism	✓	
Hypothalamic disorders	✓	
Hypoparathyroidism and hyperparathyroidism	✓	
16. Hematological disorders		
Definition, prevalence, etiological factor, pathophysiology, pathology, recognition, investigations and principles of treatment of:	✓	
Anemias: iron deficiency, megaloblastic and common haemolytic anemias (thalassemia, sickle cell and acquired hemolytic)	✓	
Common bleeding disorders (thombocytopenia and hemophilia)	✓	
Agranulocytosis and aplastic anemia	✓	
Leukemias: Recognition, diagnosis, differential diagnosis and broad principles of management	✓	
Lymphomas: Recognition , diagnosis , differential diagnosis and broad principles of management	✓	
Blood group and transfusion: Major blood group systems and histo compatibility complex, concepts of transfusion and component therapy;	✓	

Topics	Must know	Desirable to know
indications for transfusion therapy, precautions to be taken during blood transfusion, hazards of transfusion and safe handling of blood and blood products		
Disorders of coagulation and venous thrombosis	✓	
Bone marrow transplantation		✓
17. Disorders of the Immune System, Connective Tissue and Joints		
Introduction to the immune system and autoimmunity ,	✓	
Primary immune deficiency diseases	✓	
HIV, AIDS and related disorders	✓	
Recognition of major manifestations of musculoskeletal disease: Joint pain, bone pain, muscle pain and weakness, regional periarticular pain, back and neck pain	✓	
Approach to articular and musculoskeletal disorders	✓	
Inflammatory joint disease		✓
Infectious arthritis		✓
Inflammatory muscle disease		✓
Osteoarthritis		✓
Systemic connective tissue diseases - systemic lupus erythematosus, rheumatoid arthritis, progressive systemic sclerosis	✓	
Vasculitides		✓
Ankylosiing spondylitis, reactive arthritis and undifferentiated spondyloarthropathy		✓
Sarcoidosis		✓
Amyloidosis		✓
Musculoskeletal manifestations of disease in other systems	✓	
Diseases of bone		✓
18. Neurological Diseases	✓	
Clinical examination of nervous system	✓	
Functional anatomy, physiology and investigations : EEG, basics of brain and spinal cord imaging	✓	
Major manifestations of nervous system disease:Headache and facial pain, raised intracranial tension, f aintness, dizziness, syncope & vertigo, sleep disorders, disorders of movement, ataxia, sensory disturbances(numbness, tingling and sensory loss),acute confusional states, coma and brain death, aphasias, and other focal cerebral disorders, speech, swallowing and brainstem disturbance, visual disturbances, sphincter disturbances	✓	
Migraine and cluster headaches	✓	
Seizures and epilepsy	✓	
Cerebrovascular disease	✓	
Dementias including Alzhiemer's disease	✓	

Topics	Must know	Desirable to know
Acute and chronic meningitis	✓	
Viral encephalitis	✓	
Diseases of cranial nerves	✓	
Intracranial tumours		✓
Diseases of spinal cord -transverse myelitis and cord compression	✓	
Multiple sclerosis and other de-myelinating diseases		✓
Parkinson's disease and other extrapyramidal disorders	✓	
Cerebellar disorders	✓	
Motor neuron disease		✓
Peripheral neuropathy	✓	
Neurological manifestations of system diseases	✓	
Nutritional and metabolic diseases of the nervous system	✓	
Myasthenia gravis and other diseases of neuromuscular junction	✓	
Diseases of muscle		✓
Recognition of brain death	✓	
19. Clinical Pharmacology and Therapeutics	✓	
Principles of drug therapy	✓	
Adverse drug reactions	✓	
Drug interactions	✓	
Monitoring drug therapy	✓	
Rational prescription writing	✓	
Concept of essential drugs	✓	
20. Critical Care Medicine & EMERGENCY MEDICINE	✓	
Physiology of the critically ill patient	✓	
Recognition of major manifestations of critical illness circulatory	✓	
failure: shock, respiratory failure, renal failure, coma sepsis,	✓	
disseminated intravascular coagulation	✓	
General principles of critical care management	✓	
Scoring systems of critical care		✓
Outcome and costs of intensive care		✓
Ethical issues related to critical care	✓	
Cardiopulmonary resuscitation	✓	
Acute pulmonary oedema	✓	
Hypertensive emergencies	✓	
Diabetic ketoacidosis & hypoglycemia	✓	
Status epilepticus	✓	
Acute severe bronchial asthma	✓	
Shock & anaphylaxis	✓	

Topics	Must know	Desirable to know
Acute myocardial infarction	✓	
Upper G.I. Bleeding & hepatic coma	✓	
Diagnosis & management of comatose patient	✓	
Management of unknown poisoning	✓	
21. Pain Management and Palliative Care	✓	
General principles of pain	✓	
Assessment and treatment of pain	✓	
Palliative care		✓
22. Geriatrics	✓	
Principles of Geriatric Medicine:	✓	
Normal ageing	✓	
Clinical assessment of frail elderly	✓	
Decisions about investigations and rehabilitation	✓	
Major manifestations of diseases in elderly	✓	
Special issues for care of elderly	✓	
23. Medical Ethics	✓	
Principles of medical ethics- Beneficence, non -maleficience, patient autonomy, equity Different concepts- health ethics, bioethics, public health ethics	✓	
Brief introduction to perspectives of medical ethics: Hippocratic Oath, declaration of Helsinki, WHO declaration of Geneva, International code of Medical Ethics (1983), Medical Council of India Code of Ethics	✓	
Ethics of the individual: Confidentiality, physician patient relationship, Patient autonomy, organ donation	✓	
Death and dying, and Euthanasia	✓	
Ethics of human life: In vitro fertilization, prenatal sex-determination, surrogate motherhood, genetic engineering	✓	
Professional ethics: Code of conduct, fee charging and splitting, allocation of resources in health care	✓	
Family and society in medical ethics: Family planning , Care of terminally ill/dying patient	✓	
Ethical work up of cases'- Gathering information, gain confidentiality, shared decision making, informed consent ;	✓	
Research ethics: animal and experimental research, human experimentation, informed consent, drug trials	✓	
Practice of universal precautions	✓	
Bio medical waste: types, potential risks and their safe management	✓	
PEP Prophylaxis	✓	
Hand washing	✓	
23. Medical Psychiatry		
Classification of psychiatric disorders	✓	
Aetiological factors in psychiatric disorders	✓	
The clinical interview and mental state examination	✓	

Topics	Must know	Desirable to know .
Major manifestations of psychiatric illness	✓	
➢ Disturbed and aggressive behaviour	✓	
➢ Delusions and hallucinations	✓	
➢ Depressive Symptoms	✓	
➢ Anxiety symptoms	✓	
➢ Deliberate self-harm and suicidal ideation	✓	
Alcohol misuse and withdrawal	✓	
Misuse of drugs other than alcohol	✓	
Medically unexplained physically symptoms and functional somatic syndromes		✓
Psychiatric and psychological aspects of chronic and progressive disease	✓	
Clinical syndromes	✓	
➢ Organic brain syndromes	✓	
➢ Substance abuse-Alcohol-Drugs	✓	
➢ Bipolar disorders	✓	
➢ Depressive disorders	✓	
➢ Schizophrenia	✓	
Treatments used in psychiatry	✓	
➢ Psychological treatments	✓	
➢ Physical treatments		
Neurotic, stress-related and somatoform disorders	✓	
Anxiety	✓	
Obsessive compulsive disorders	✓	
Dissociative disorders	✓	
Sleep disorders	✓	
Legal aspects of psychiatry	✓	

Teaching and Learning methods

Lectures, Small group discussions, Seminars, Algorithms, Problem Based Learning, Videography, Integrated teachings and e-modules.

Skills .

Skill labs, Role play, Problem based - paper and real cases, Integrated teaching and Field visits.

MEDICINE & ALLIED SPECIALTIES KILLS

	Able to to perform independently	Able perform under guidance	Assist	Observe
Clinical Skills				
Elicit, interpret and record a detailed appropriate history including social issues and occupational health.	✓			
Observe the patient, perform, interpret and record relevant and thorough clinical examination including mental status examination, examination of an unconscious patient and internal (per-rectal and per-vaginal) examination.	✓			
Demonstrate clinical reasoning (Interpret clinical findings) and develop a differential diagnosis	✓			
Request appropriate investigations keeping in mind their relevance and cost-effectiveness ..	✓			
Interpret relevant investigations	✓			
Diagnose common health problems of the individual and community	✓			
Plan and institute appropriate management which is need-based and cost-effective, of common illnesses in a given situation depending upon the facilities available	✓			
Initiate first line management and plan short-term and long-term management of patient	✓			
Recognize immediate life threatening conditions and provide immediate medical treatment	✓			
Provide immediate management of cases of acute severe bronchial asthma, acute pulmonary edema, acute myocardial infarction, seizures and status epilepticus, hyperpyrexia, drowning, anaphylactic shock , acute haemorrhage and refer the patient appropriately	✓			
Provide emergency management to a comatose patients regarding airway, positioning, prevention of aspiration and injuries and refer appropriately.	✓			
Early recognition of complications and appropriate referral	✓			
Manage common poisonings prevalent in the region	✓			
Recognize need for transfusion of blood and blood products and transfuse.	✓			

	Able to to perform independently	Able perform under guidance	Assist	Observe
Recognize brain death	✓			
Interpret abnormal biochemical and pathological abnormalities in common medical conditions.	✓			
Interpret x-rays of common clinical conditions , particularly chest x ray including all forms of pulmonary tuberculosis and common limb fractures.	✓			
Interpret an ECG and identify common abnormalities like myocardial infarction, arrythmias like atrial fibrillation, supraventricular tachycardia, ventricular tachycardia etc.	✓			
Interpret serological tests such as VDRL, ASLO, Widal, HIV, rheumatoid factor, hepatitis and TORCH infections.	✓			
Assess and manage fluid-electrolyte and simple acid-base abnormalities	✓			
Interpret blood gas abnormalities	✓			
Write rational prescriptions and justify their rationality	✓			
Administer post-exposure prophylaxis for HIV	✓			
Communication and Interpersonal skills	✓			
Demonstrate good interviewing skills : Questioning, listening, and establishing rapport	✓			
Demonstrate empathy, caring and humane behaviour while communicating with patients and relatives	✓			
Provide explanation to patients and relatives facilitating their understanding about the disease and enable them to take part in decision making	✓			
Demonstrate interpersonal skills in communicating effectively with colleagues, faculty, paramedical staff, community and media	✓			
Effectively communicate with patients and colleagues both orally and in writing	✓			
Obtain informed consent	✓			
Demonstrate sensitivity to psychosocial, cultural and personal factors that improve interactions with patients and community	✓			
Demonstrate adequate comfort level in eliciting personal and sexual history from the patient and in discussing end of life issues	✓			
Demonstrate skills to effectively communicate a bad news to patient or family, and basic counselling skills.	✓			

	Able to, perform independently	Able to perform under guidance	Assist	Observe
Demonstrate written communication skills in interaction with patients, co-team members and scientific community	✓			
Write a complete case record with meaningful progress notes	✓			
Write a proper discharge summary with all relevant details	✓			
Write a death form appropriately	✓			
Write an appropriate referral note to other physicians or secondary or tertiary health care centres	✓			
Assess the need for and issue appropriate medical certificates to patients for various purposes	✓			
Make an effective presentation to colleagues, seniors and community	✓			
Professional Behaviour and Ethics	✓			
Recognition of the essential elements of medical profession , including moral and ethical principles (respect for patient autonomy, confidentiality, informed consent and equity) and legal responsibilities underlying the profession	✓			
Recognition that good medical practice depends on mutual understanding and relationship between the doctor, patient and family with respect for patient's welfare, cultural diversity, beliefs and autonomy	✓			
Ability to apply the principles of moral reasoning and decision making to conflicts between ethical and professional values and those arising from financial constraints, scientific advances and commercialization of healthcare	✓			
Identify ethical issues in common patient care issues	✓			
Awareness of limitations of knowledge and willingness to seek further help when necessary	✓			
Acknowledge the need to function effectively within a health care team	✓			
Procedural Skills	✓			
Perform minor/ basic clinical procedures	✓			
IM/ IV and SC injections	✓			
IV cannulation and starting infusion	✓			
Insertion of NG Tube	✓			
Urinary catheterization (male and female)	✓			
Basic life support	✓			
Use of peak flowmeter	✓			
Recording of ECG	✓			

	Able to, perform independently	Able to perform under guidance	Assist	Observe
Ascitic tap	✓			
Knowledge and practice of universal precautions and safe disposal of biomedical waste	✓			
Use of simple equipment.	✓			
Administration of oxygen by mask, catheter,prongs	✓			
Handling oxygen cylinder	✓			
Use of nebulizer / inhalers	✓			
Procedures				
Pleural aspiration		✓		
Bone marrow aspiration		✓		
Relieve tension pneumothorax by inserting a needle		✓		
Advanced cardiac life support		✓		
Liver biopsy				✓
Kidney biopsy				✓
Bone marrow biopsy				✓
Splenic aspirate				✓
Community Orientation and Managerial skills				
Educate individuals and community groups in principles and process of disease prevention and health promotion	✓			
Work effectively in interdisciplinary / intersectoral teams	✓			
Practice community oriented approach	✓			
Demonstrate basic managerial skills	✓			
Information Management, Critical Thinking and Self-Directed Learning				
Use appropriate technology for learning and practice	✓			
Search, collect, retrieve and manage information from diverse sources	✓			
Evaluate medical and scientific literature critically and apply the knowledge judiciously	✓			
Practice evidence based medicine	✓			
Analyze critically one's own performance and be a self-directed learner	✓			
Comprehend, accept and manage the uncertainties in scientific knowledge and medical.practice	✓			
Practice ethics in research	✓			

ASSESSMENT

Clinical skills - OSCE, Case records, viva-voce, structured-long case exam

Communication & interpersonal skills - OSCE, observation checklist, case records, video recording

Professional behaviour and ethics - case vignettes, OSCE, patient survey 360°assessment

Procedural skills - OSCE, observation in wards,

Community orientation and managerial skills - 360° assessment, short essay question

Information management, critical thinking and self-directed learning (SDL) - viva-voce, MCQs, 360° assessment, record review

Distribution of subjects in Paper I and Paper II, for the University examination shall be as follows :

Max. Marks – 100 **Time 3 hours**

General Medicine Paper I

1)	Long essay questions	2x10 Marks each	- 20
2)	Short essay questions	10x5 Marks each	- 50
3)	Short answers questions	10x3 Marks each	- 30
		Total	- 100 Marks

General Medicine II- part I

1)	Long essay questions	1x10 Marks each	- 10
2)	Short essay questions	5x5 Marks each	- 25
3)	Short answers questions	5x3 Marks each	- 15
		Total	- 50 Marks

Paper II – Part II

Psychiatry and Dermatology (25 marks each subject)

1)	Long essay questions	- Nil -	
2)	Short essay questions	4 x 5 marks each	20
3)	Short answers questions	10 x 3 marks each	30
		Total	50 Marks

GENERAL MEDICINE

SCHEDULE OF THEORY TEACHING TERMWISE

TERM	SUBJECT
III	Common symptoms of diseases
IV	Nutrition and exposure to physical chemical agents
VI	Infections
VII	Haematology
VIII	Respiratory Medicine Gastrointestinal and Hepatobiliary system Cardiovascular system
IX	Endocrinology Neurology Nephrology & disease of connective tissue and bone and joints Emergency medicine Geriatrics Medicine

PSYCHIATRY

LEARNING OBJECTIVES

The student shall be able to deliver basic mental health services at the primary care level:

1. Able to identify symptoms and signs of common psychiatric illnesses.
2. Able to identify developmental delays including cognitive delay.
3. Able to appreciate the interplay between psychological and physical factors in medical presentations.
4. Aware of common psychopharmacological interventions in psychiatry.
5. Able to apply basic counselling skills and have comfort with discussing common psychological issues.
6. Able to understand the nature and development of normal human behaviour.
7. Aware of statutory and educational provisions with regard to psychiatric illnesses and disability.
8. Able to develop helpful and humane attitude towards psychological, psychiatric and behavioural difficulties.
9. And overall, able to deliver mental health services at the primary care level.

PSYCHIATRY AND DRUG/ALCOHOL DE-ADDICTION

Sl. No	Course content	Must know	Desirable to know
1.	Depression and anxiety disorders: ask about depression and anxiety. Diagnose depression, assess suicide risk, educate and advise. Prescribe rationally and discuss referral.	✓	
2.	Unexplained physical complaints: identify physical symptoms without medical cause. Elicit stress and coping related information. Educate, reassure and refer appropriately.	✓	
3.	Psychoses: identify, provide immediate care and refer, educate regarding continued care in discussion with the psychiatrist.	✓	
4.	Agitated / violent patient: emergency management. Keeping forensic and transportation needs in mind.	✓	
5.	Signs and symptoms of common mental illnesses - depression, anxiety, somatoform disorders including conversion disorders and psychoses, dementia. Common antidepressant and tranquilizers.	✓	
6.	Mental functions: primary and higher. Elicit signs and symptoms of delirium. Identify early cognitive decline. Educate family, plan referral	✓	
7.	Cognitive delays: identify developmental delay. Basic health education and advice. Discuss the referral	✓	
8.	Substance abuse: ask about alcohol use, identify problem, educate and advise, refer appropriately.	✓	
9.	Signs and symptoms of alcoholism, its medical and psychological impact, treatment available.	✓	
10.	Sleep: educate regarding sleep hygiene, prescribe rationally, look for other psychiatric possibilities.	✓	
11.	Concept of mental hygiene and mental health promotional issues.	✓	
12.	Prevalent social and psychological concepts around death and dying.	✓	
13.	Mental health promotional issues related to death and dying, breaking bad news, eliciting reactions and support.	✓	
14.	Interplay of psychological and physical aspects in medical presentations,	✓	
15.	Common causes of delirium, behavioral management and safe sedation methods	✓	
16.	Child development and common developmental disorders	✓	
17.	Chronic organic brain syndrome (dementia)	✓	
18.	Mental Health Act (MHA) 1987 & Forensic aspect of v attempted suicide and suicide	✓	
19.	Basic counseling principles	✓	
20.	WHO primary care classification of mental disorders	✓	
21	Psychological barriers to help-seeking form mental illnesses	✓	
22.	Educational and statutory provision regarding psychiatric illnesses and disability		✓
23.	Principles of psycho-education		✓
24.	Basic psychotherapeutic skills		✓
25.	Mass hysteria, post traumatic stress disorder (PTSD)		✓
26.	Psychosexual disorders		✓

SKILLS

	Perform independently	Perform under supervision	Assist the expert	Observe
1. Psychiatric history taking	✓			
2. Mental status examination (primary mental functions)	✓			
3. Mental status examination (higher mental functions)	✓			
4. Diagnosis of common straight forward psychiatric disorders	✓			
5. Dealing with PTSD		✓		
6. Dealing with mass hysteria			✓	
7. Mental hygiene	✓			
8. Sleep hygiene	✓			
9. Developmental delay assessment		✓		
10. Physical methods of treatment (e.g. ECT)				✓
11. Abreaction				✓
12.Brief psychotherapy	✓			
13.counseling	✓			
14.Suspect clinically and refer to specialist (psychiatrist) allied specialist (neurologist)	✓			
15.Behavioral and psychological analysis of self destructive behavior	✓			
16.Child psychiatric history taking			✓	
17.Child and adolescent mental status examination (primary and higher mental functions)			✓	
18.Geriatric history taking			✓	
19.Geriatric mental status examination (primary and higher mental functions)		✓		
20.Initial and primary care for the children and adolescents and then refer to the psychiatrist / child & adolescent psychiatrist / geriatric psychiatrist	✓			
21 .Terminal care			✓	
22.Exercising empathy, compassion and establishing rapport and maintaining rapport, which is a must for all psychiatric interventions (need not necessarily in a long term psychotherapeutic contact)	✓			
23.Psychotherapeutic and behavioral modification approaches for treating neurotic disorders			✓	

Theroy : 30 hours

Clinical postings : 4 weeks - IV/V term and VII/VIII term (2 weeks each)

DERMATOLOGY

OBJECTIVES:

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

1) Demonstrate good knowledge of common skin diseases, clinical manifestations, and bedside investigation with special emphasis on clinical diagnosis.
2) Demonstrate comprehensive knowledge of various modes of topical therapy.
3) Describe the mode of action of commonly used dermatological drugs, their doses, side effects toxicity, indications and contraindication and interaction.

Knowledge

Subject	Must know	Desirable to know
Skin Infection:		
1) Bacterial-including Leprosy and STD	✓	
2) Viral- including Retroviral diseases	✓	
3) Fungal	✓	
Infection:		
1) Scabies	✓	
2) Pediculosis	✓	
Nutritional Disorders		
1)Pellagra	✓	
1) Riboflavin deficiency	✓	
2) Vitamin A deficiency	✓	
Allergies		
1) Drug including -Such as acute urticaria, angioedema ,drug rash FDE,	✓	
2) Erythrema Multiforme,maculopapular rash, SJ Syndrome	✓	
3) Environmental -contact dermatitis,	✓	
4) Constitutional-atopic dermatitis, eczema, and seborrhoeic dermatitis.	✓	
Dermatological Emergencies:(Diagnosis and Referrals)		
➢ Toxic Epidermal Necrolysis	✓	
➢ Pemphigus vulgaris and its variants		✓
➢ Erythroderma		✓
➢ Staphylococcal Scalded Skin Syndrome		✓
Other common skin diseases-Acne Vulgaris, Lichen planus, psoriasis,vitiligo, Melasma, Herpes Zoster.	✓	

Examination Skills

Skills	Perform independently	Perform under supervision	Assist the expert	Observe
Good and complete skin examination including hairs and nails	✓			
Good and complete examination of the genitalia, and oral mucosa	✓			
Leprosy				
l)Must be able to Demonstrate anesthesia in patches and	✓			
extremities	✓			
2) Demonstration thickened nerves	✓			
3) Classify and manage Hansen's Disease, and differentially	✓			
diagnose a hypo pigmented patch.				
4)Clinically identify Type | Type 11 Reactions in Leprosy and	✓			
manage acute reactions	✓			
5)Prevent deformities in Leprosy, through counseling etc	✓			
6)Care of deformities in limbs, and ulcer care	✓			
STD Syndromes				
l)Syndromic management	✓			
2) HIV Counseling	✓			
3)Contact tracing	✓			
4)Treatment of Contacts	✓			
*Skills for various compresses.	✓			
*Incision and drainage.	✓			
*Molluscum contagious and warts removal techniques,	✓			
*Management of allergies	✓			
*Management of Dermatological Emergencies		✓		
*Perform bedside Diagnostic tests: Tzanck smear Tissue Smear gram staining	✓			
*Slit smear for AFB	✓			
*Dark Ground Microscopy				✓
*Skin Biopsies				✓
♦LASERS Handling				✓
*PUVA therapy including Narrow Band UVB therapy				✓
*Chemical peels				✓
*Patch Testing				✓
*Minor Dermatological surgical procedures				✓

PULMONARY MEDICINE

A) GOAL

The aim of teaching the undergraduate students in Pulmonary Medicine is to imparl 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 under Revised National Tuberculosis Control Programme and common respiratory diseases.

B) OBJECTIVES

Knowledge :

At the end of the course of Pulmonary Medicine, the students shall be able to:

1) Demonstrate knowledge of common Respiratory diseases, their clinical manifestations, including emergency 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, 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 Revised National Tuberculosis Control Programme.
5) Get acquainted and practice RNTCP in the society.

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 bed side diagnosis, especially sputum collection and examination for etiologic organisms especially acid fast bacilli (AFB), interpretation of the chest x-rays and pulmonary function tests.
4) Interpret and manage, various blood gases and pH abnormalities in various respiratory diseases;
5) Manage common diseases, recognize the need for referral for specialized care, in case of inappropriateness of therapeutic response;
6) Assist in the performance of common procedures, like laryngoscopy examination, pleural aspiration, respiratory physiotherapy, laryngeal intubation and intercoastal tube drainage procedure, and fibreoptic bronchoscopy.

Integration

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

C) COURSE CONTENTS

1) Tuberculosis -Pulmonary and extra pulmonary
2) RNTCP
3) Surgical aspects in Tuberculosis
4) Pneumonia
5) COPD
6) Lung abscess
7) Diseases of the pleura
8) Bronchiectasis
9) Fungal infections of the lung
10) Pulmonary hypertension and cor pulmonale
11) Sarcoidosis
12) Bronchial asthma
13) Pulmonary eosinophilia
14) Pulmonary thromboembolism
15) Interstitial lung diseases '
16) Pneumothorax and mediastinal emphysema
17) Lung cancer and mediastinal tumours
18) Respiratory failure
19) ARDS
20) Occupational lung diseases
21) Respiratory manifestations of systemic diseases.
22) Pulmonary function tests.

Recommended Books (Latest editions)

SI.No.	Name of the Textbook	Authors	Publisher
1	Davidson's Principles and Practice of Medicine	Boon N., Colledge N., Walker B., Hunter J.	Elsevier
2	Crofton & Douglas's Respiratory Diseases	Seaton A, Seaton G, Heitch AG	Black Well Scientific

D) TEACHING HOURS

Theory : 20 hours **Clinical posting : Two weeks**

Assessment Cards: The students will be assessed at the end of clinical posting with presentation of at least two case's, chest x-ray interpretation and spirometry interpretation.

Scheme of Examination :- Questions on Pulmonary Medicine will be asked in the Medicine Paper II.
[Medicine Paper II - Maximum Marks 100 including Skin, STD & Leprosy, Pulmonary Medicine & Psychiatry

Distribution of subjects in Paper I and Paper II, for the University examination shall be as follows :

Max. Marks – 100 **Time : 3 hrs**

General Medicine Paper I

1	Long Essay Questions	2 x 10 Marks each	20
2	Short Essay Questions	10 x 5 Marks each	50
3	Short Answers Questions	10 x 3 Marks each	30
		Total	100

General Medicine Paper II

Section – A (General Medicine + TB and Chest Diseases)

1	Long Essay Questions	1 x 10 Marks each	10
2	Short Essay Questions	5 x 5 Marks each	25
3	Short Answers Questions	3 x 5 Marks each	15
		Total	50

Section – B (Psychiatry)

1	Short Essay Questions	5 x 5 Marks each	25
		Total	25

Section – C (Dermatology)

1	Short Essay Questions	5 x 5 Marks each	25
		Total	25

SURGERY & ITS ALLIED SUBJECTS

1. General Surgery
2. Orthopaedics
3. Radio diagnosis
4. Radiotherapy
5. Anaesthesia

GENERAL SURGERY

A) GOAL

The broad goal of the teaching of undergraduate students in Surgery is to enable them capable of delivering efficient and first contact surgical care.

B) OBJECTIVES

Knowledge:

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

1) Describe aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies in children, adults and geriatric patients;
2) Define indications and methods for fluid and electrolyte replacement therapy including blood transfusion;
3) Define asepsis, disinfection, 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, contra indications and side effects.

SKILLS

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

1) Diagnose common surgical conditions, both acute and chronic in children, adult and geriatric patients;
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, monitor and resuscitate
    i. Critically injured patient
    j. Critically ill patient
    k. Patient with cardio-respiratory failure
    l. A drowning case
5) Monitor patients of head, chest, spinal and abdominal injuries in children, adults & geriatric patients
6) Provide primary care for a patient of burns
7) In the situations identified in S. No 3, 4, 5, and 6, calling for urgent or early surgical intervention, refer at the optimum time to appropriate centers;
8) Acquire principles of operative surgery, including pre-operative, operative and post operative care and monitoring;
9) Treat open wounds including preventive measures against tetanus and gas gangrene;
10) Diagnose neonatal and pediatric surgical emergencies and provide sound primary care before referring the patient to secondary/ tertiary centers;

11) 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 performing the following:-

a) Incision and drainage of abscess;
b) Debridement and suturing open wound;
c) Venesection;
d) Excision;
e) Biopsy of surface malignancy;
f) Catheterization and nasogastric intubation;
g) Circumcision;
h) Meatotomy;
i) Vasectomy;
j) Peritoneal and pleural aspirations;
k) Diagnostic proctoscopy;
l) Hydrocele operation;
m) .Endotracheal intubation;
n) Tracheostomy and cricothyroidotomy;
o) Chest tube insertion;
p) Appendicectomy
q) Hernia Operations
r) Laparotomy
s) Operations on breast
t) Operations on thyroid
u) Amputations
v) Operations on piles, fissure & fistula

12) Counsel and guide patients and relatives regarding need, implications and problems of surgery in individual patient;
13) Develop adequate and right attitude in dealing with surgical problems of patients;
14) Organise and conduct relief measures in situations of mass casualties.
15) Effectively participate in the National Health Programmes especially the Family Welfare Programme.
16) Discharge effectively medico-legal and ethical responsibilities.
17) Be informed about Consumer Protection Act and its implications in surgical diseases
18) Be able to maintain adequate medical records.

Integration

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

Course Contents

II Phase- 3rd term
One class per week (24 hrs)

Topics	Must know	Desirable to know
1. Introduction to surgery, Historical background and progress made.		✓
2. Wounds, wound healing and wound Management.	✓	
3. Acute non-specific and specific infections.	✓	
4. Chronic specific infections.	✓	
5. Tumours, Cysts, Ulcers and Sinuses and Fistulae.	✓	
Haemorrhage and shock.	✓	
Etiology, Pathology, Symptomatology, Management	✓	

II Phase- 4th term
One Class per week (24 hrs)

Topic	Must know	Desirable to know
1. Fluid, Electroyte and Acid Base Balance, Nutrition.	✓	
a. Introduction to Physiology of fluids and Electrolytes.	✓	
b. Dehydration and Overhydration.	✓	
c. Specific electrolyte losses and symptomatology and management. i. Hypokalemia ii. Hyponatremia iii. Hypocalcaemia iv. Acidosis v. Alkalosis vi. Acid Base balance.	✓	
d. Electrolyte change in specific diseases. i. Pyloric obstruction, ii. Intestinal obstruction iii. Anuria.		✓
e. Various replacement fluids in Surgery, mode of administration and complications.	✓	
f. Blood grouping, Blood transfusion and its hazards.	✓	
g. Nutrition- pre-operative, Post-operative, intravenous administration.		✓
2. Skin tumours, Burns & Skin grafting	✓	
3. Infections of the hand and foot.	✓	
4. Diseases of the muscles, tendons, bursae and fascia.	✓	
5. Umbilical Granuloma	✓	
6. Umbilical Fistula	✓	
7. Umbilical adenoma or raspberry tumour.	✓	
8. Abdominal wall- Anatomy, Incisions, Burst abdomen, Desmoid tumour.		✓

III Phase- 6th term
One class per week (24 hrs)

Topic	Must know	Desirable to know
1. FACE.		
a. Development and Congenital anomalies		✓
b. Cleft lip and Cleft palate	✓	
c. Carcinoma lip	✓	
d. Rodent ulcer	✓	
e. Fascio-Maxillary injuries		✓
2. TEETH a. Dental caries, Alveolar abscess.		✓
3. GUMS Gingivitis and pyorrhea, tumours of the alveolus (epulis), odentomes, tumours of the jaw		✓
4. MOUTH		
a. Ranula	✓	
b. Cancrum oris	✓	
c. Lingual and Sublingual dermoids	✓	
d. Carcinoma cheek	✓	
5. TONGUE		
a. Hyperkeratosis and leukoplakia	✓	
b. Carcinoma tongue.	✓	
6. SALIVARY GLANDS		
a. Inflammation	✓	
b. Salivary calculi	✓	
c. Neoplasm	✓	

III Phase- 7th term
One class per week (24 hrs)

Topic	Must know	Desirable to know
1. SYMPATHETIC SYSTEM	✓	
a. Anatomy	✓	
b. Indications of sympathectomy	✓	
c. Cervical sympathectomy	✓	
d. Lumbar sympathectomy	✓	
2. DISEASES OF THE BRAIN		
a. Intracranial abscesses		✓
b. Intracranial tumours	✓	
c..hydrocephalus	✓	
3. DISEASES OF THE NERVES		
a. Injuries to nerves and nerve regeneration	✓	
b. Facial nerve	✓	
c. Radial, Ulnar and median nerve, Lateral popliteal nerve.	✓	
4. ORGAN TRANSPLANTATION: Basic principles.		✓
5. Mechanisms and management of Missile, Blast and Gunshot injuries.		✓

III Phase- 8th term
Four classes per week (96 hrs)

Topic	Must know	Desirable to know
1. GENITO URINARY SYSTEM Symptomatology and investigations of a genitor-urinary case	✓	
2. KIDNEYS AND URETER		✓
a. Congenital anatomy- polycystic kidney	✓	
b. Trauma	✓	
c. Anuria and dialysis		✓
d..Hydronephrosis.	✓	
e. Renal and Ureteric calculi	✓	
f. Tuberculosis of the kidney	✓	
g. Neoplasm	✓	
3. URINARY BLADDER		
a. Congenital anamoly-ectopia vesicae		✓
b. Trauma- Rupture bladder	✓	
c. Retention of urine and cystitis	✓	
d. Vesical calculi.	✓	
4. PROSTATE		
a. Surgical anatomy	✓	
b. Benign enlargement	✓	
c. Carcinoma	✓	
5. URETHRA		
a. Rupture.	✓	
b. Stricture and its complications	✓	
6. PENIS, TESTIS AND SCROTUM		
Penis: a. Phimosis, Paraphomosis, Pre-cancerous conditions of the penis, Carcinoma penis.	✓	
Testis: a. Undescended testis and testicular torsion.	✓	
b. Varicocele.	✓	
c. Hydrocele and Haematocele.	✓	
d. Tubercular epididymitis and acute epididymoorchitis.	✓	
e. Neoplasm's.		✓
Scrotum: a. Fournier's gangrene,	✓	
b. Carcinoma scrotum.	✓	
7. LYMPHATIC SYSTEM		
a. Lymphagitis and lymphatic obstruction (Filariasis).		✓
b. Diseases of the lymph nodes. i. Acute inflammation. ii. Chronic inflammation. iii. The Reticulosis.	 ✓ ✓	✓
8. PERITONEUM		
a. Acute and Chronic peritonitis	✓	

b. Subphrenic abscess.		✓
c. mesenteric cyst.	✓	
d. Abdominal Tuberculosis	✓	
9. INTESTINES		
a. Congenital deformities	✓	
b. Surgical aspects of intestinal tuberculosis	✓	
c. Crohn's disease.		✓
d. Ulcerative colitis	✓	
e. Large intestinal tumours	✓	
10. INTESTINAL OBSTRUCTION	✓	
Pathology, Signs and symptoms, Management,		
11. SPECIFIC OBSTRUCTIONS		
a. Intussusception	✓	
b. Volvulous of sigmoid and small bowel.	✓	
c. Paralytic ileus.	✓	
12. APPENDIX		
a. Acute appendicitis	✓	
b. Complications and management	✓	
13. RECTUM AND ANAL CANAL		
a. Anatomy.	✓	
b. Imperforate anus	✓	
c. Ano-rectal abscess	✓	
d. Haemarrhoids, Fissures, Fistulae	✓	
e. Ano-rectal malformations.		✓
f. Rectal polyp.	✓	
g. Prolapse rectum	✓	
14. CRANIOCEREBRAL INJURIES		
a) Mechanism, Pathology and Investigations and Management	✓	
b) Cerebral concussion, contusion and laceration	✓	
c) Acute extradural haematoma	✓	
d) Acute intracerebral and chronic subdural e) haematoma.	✓	
f) Fractures of the skull		✓
15. NECK		
a. Branchial cyst and fistula	✓	
b. Cystic hygroma and solitary lymphatic cyst	✓	
c. Thoracic outlet syndrome	✓	
d. Cervical lymphadenitis.	✓	
e. Differential diagnosis of swellings in the neck	✓	
f. Sternomastoid tumour.		✓
16. CARDIOTHORACIC SYSTEM	✓	
a. Injuries to the thorax.	✓	
b. Infections i. Empyema thoracis ii. Suppurative conditions of the lung and pleura.	✓	✓
c. Malignancy i. Carcinoma of the lungs.		✓

17. Bio medical wastes: Types, potential risks their safe management		✓
18. Vasectomy and recanalisation		
a) Indications	✓	
b) Techniques	✓	
c) Complications with special emphasis on family planning.	✓	
19. Surgical aspects of Diabetes Mellitus	✓	

III Phase- 9th term
Four classes per week (96 hrs)

Topic	Must know	Desirable to know
1. OESOPHAGUS		
a. 1) Investigations of GI tract-general. 2) Dysphagia, differential diagnosis, investigations, management.	✓ ✓	
b. Achalasia cardia.	✓	
c. Reflux oesophagitis.	✓	
d. Carcinoma oesophagus	✓	
2. STOMACH AND DUODENUM		
a. Congenital pyloric stenosis.	✓	
b. Acute dilatation of stomach		✓
c. Peptic ulcer.	✓	
d. complications of peptic ulcer.	✓	
e. Malignancy	✓	
3. SPLEEN		✓
a. Rupture spleen		
b. Indications of splenectomy		
4. LIVER		
a. Trauma	✓	
b. Liver abscess.	✓	
c. Portal hypertension	✓	
d. Neoplasms of the liver		✓
e. Cysts in the liver.		✓
5. GALL BLADDER AND BILE DUCTS		
a. Anatomy and physiology	✓	
b. Investigations.	✓	
c. Cholelithiasis.	✓	
d. Cholecystitis.	✓	
e. Obstructive Jaundice.	✓	
6. PANCREAS		
a. Acute pancreatitis.	✓	
b. Chronic pancreatitis.	✓	
c. Pancreatic cysts.		✓
d. Carcinoma pancreas		✓
7. HERNIA		

a. Inguinal hernia	✓	
b. Femoral hernia	✓	
c. Umbilical hernia	✓	
d. Epigastric hernia.	✓	
e..Incisional hernia- complications and management.	✓	
8. THYROID GLAND, THYROGLOSSAL CYST TRACT AND ENDOCRINES		
a..Development, Anatomy, Physiology and Investigations.	✓	
b. Different Non-toxic goiter, Toxic goiter..	✓	
c. Hashimoto's disease.	✓	
d. Riedel thyroiditis.		✓
e. Carcinoma of the thyroid.	✓	
f. Thyroglossal cyst and fistula.	✓	
g. Parathyroids and adrenals and thymus.		✓
9. BREAST		
a. Anatomy and lymphatic drainage.	✓	
b. Inflammation of the breast.	✓	
c. Benign breast diseases, nipple discharge.	✓	
d. Malignant tumours of the breast.	✓	
10. ARTERIAL DISEASES		
a. Investigations.	✓	
b. Assessement of a case of periphreral vascular disease.	✓	
c. Thrombosis and Embolism.	✓	
d. Thromboangitis oliterans.	✓	
e. Arteriosclerosis.	✓	
f. Aneurysms.		✓
g. Gangrene.	✓	
h. Surgical management of an ischaemic limb direct arterial surgery.		✓
11. VENOUS DISORDERS		
a. Varicose veins.	✓	
b. Superficial and deep vein thrombosis	✓	
c. Chronic venous ulcers.	✓	
12. Principles of minimal invasive surgery.		✓

d). Teaching Hours of Surgery. Clinical Posting: 26 weeks

Term	**3rd**	**4th**	**5th**	**6th**	**7th**	**8th**	**9th**
Weeks	6		4	4	4	6	6
Total							**26 weeks**

Lecture Classes- Total number of lecture classes 300 hours.
Teaching of Medicine and its allied specialities starts from 3rd term and extends to 9th term during phase II and III. Theory is taught for 300 hours starting from 4th term till

9lh.term, as follows:

Phase	Term	No of classes per week	Total Hours
Phase II	3rd Term	**1**	**24**
Phase II	4th Term	**1**	**24**
Phase III	6th Term	**1**	**24**
Phase III	7lh Term	**1**	**24**
Phase III	8th Term	**4**	**96**
Phase III	9th Term	**3**	**72**
Total			**264**

3) Demonstration of

a. X -rays and slides
b. Pathological specimens
c. Operative Surgery
d. Instruments 10hrs

4) Integrated teaching

a. Jaundice, Thyroid, Diabetes etc
b. Critically ill patients
c. Multiple system injury
d. Cardiothoracic resuscitation with Departments of anesthesia & medicine 26 hrs
e. Common Surgical Emergencies

Grand total **300 hrs**

Recommended Books (Latest Editions)

Sl.No.	Name of the Textbook	Authors	Publisher
1.	Bailey & Love's Short Practice of Surgery,	Ruseell R.C.G. Willimas. N.S.	Arnold Heinemann
2.	A Manual on Clinical Surgery,	DasK	S Das
3.	Hamilton Bailey's Demonstrations of Physical Signs in Clinical Surgery.	John SP Lumley	Butterworth Heinemann
4.	ASI Text book of Surgery	Hai A. A.	Tata Mcgraw: hill publishing company
5	Farquharson's Text book of OperativeSurgery	RF Rintoul	Churchill Livingstone

DEPARTMENT OF ORTHOPEDICS

Course contents:

Topics	Must know	Desirable to know
TRAUMATOLOGY:		
Injuries of bone and joint:		
Fractures	General types-healing of fractures-principles and management-diagnosis-methods of reductions-immobilisation-complications of fractures- -pathological fractures. **Dislocations of joints- Fractures in children.**	Management of open fractures
Injuries of shoulder-arm-forearm	Fracture clavicle, upper end of humerus. Dislocation of shoulder-acute and recurrent. Fracture shaft humerus. Fractures around the elbow, radius, ulna, Monteggio fracture, **Dislocation of elbow.**	Injuries of Acromio clavicular joints, Fracture scapula.
Injuries around the wrist	**Colles fracture- Smiths fracture- -fracture Scaphoid.**	**Barton's fracture,** Dislocation of lunate.
Injuries of the hand	Incidence, Bennett's fracture & dislocation	Closed injury-fracture-metacarpal, open injuries- tidy injuries- tendon injuries.
	Pop slab application	
Injuries-Lower Extremity:	Dislocation of hip, fracture neck of femur, trochanteric fracture, fracture shaft femur. Injuries of knee-**fractures of patella**- fracture tibia & Fibula- fracture dislocation ankle. Traction splintage- below knee slab and above knee slab.	Fracture calcaneum.
Injuries of the spine:	Cord injury- traumatic paraplegia, Nerve injury: Anatomy of a peripheral nerve- pathology-classification- diagnosis-management- Radial, Ulnar, Median, Sciatic, Lateral Popliteal. **Injuries of pelvis.**	Incidence-mechanism, types, clinical features
Vascular injuries:	Types, sub fascial compression,	Brachial artery injury, Popliteal artery injury, tibial artery injury.
Amputations:	General indications-levels, below knee stump, Symes amputation	Technique above knee amputation, -upper limb amputation, prosthesis.

COLD ORTHOPAEDICS:		
I. Deformities:	General- congenital- acquired- principles of management, splints, Club foot, CDH	Congenital skeletal limb defeciencies.
II. Regional conditions:		
Neck	Torticollis	Cervical rib
Shoulder, elbow	Peri arthritis, Tennis elbow, Cubitus Varus-Valgus.	painful arc syndrome
Wrist and hand:	wrist drop- claw hand, ganglion. Dupuytrens contracture, trigger thumb-Carpal tunnel syndrome.	deQuervain's disease,
Spine:	Backache examination, Inter vertebral disc prolapse.	Spondylolisthesis
Hip:	Clinical examination- Perthe's disease	
Knee:	Genu valgum, varum,	recurvatum- recurrent dislocation of patella, Semi membranous Bursa.
Foot:	flat foot- foot drop	Plantar fasciitis-
III. Neuro Muscular Disorders:		
Cerebral palsy:	Clinical features, management	
Anterior Poliomyelitis:	Pathology; clinical features, management,	Surgery.
Leprosy:	Pathology- Orthopaedic problems- Claw hand, Foot drop- Wrist drop Rehabilitation.	
Infections:	Pyogenic osteomyelitis- acute, chronic, subacute- Brodie's abscess- Mycotic infection- Syphilitic lesions.	
Metabolic disorders:	Rickets- Osteomalacia, Scurvy- Gout.	Osteopetrosis
Miscellaneous:	Bone cyst	Paget disease- - Medullary deformities
Disease of joints:	Clinical examination- septic arthritis- Rheumatoid diseases, Haemophilic arthritis.	Synovial fluid: normal, Rheumatic diseases.
IV. Bone and joint tuberculosis:		
	Aetio-pathogenesis- clinical features- management. Tuberculosis of spine, Pott's paraplegia, tuberculosis of hip, knee.	Tuberculosis of other joints.
Tumors:	benign and malignant bone tumors	
Benign:	Osteo chondroma, Enchondroma, Osteoid osteoma, Codman's tumor	
Malignant:	Osteosarcoma, Osteoclastoma, Ewing's tumour, Multiple myeloma, secondaries.	
Physical medicine and Rehabilitation:		
Bio-Medical Waste:	Types, potential risks and their safe management.	

RADIO-DIAGNOSIS & IMAGING

A) GOAL

The broad goal of teaching the undergraduate medical students in the field of Radio-diagnosis should be aimed at making the students realize the basic need of various radio diagnostic tools in medical practice. They shall be aware of the techniques to be undertaken in different situations for the diagnosis of various ailments as wells as during prognostic estimations.

B) OBJECTIVES

KNOWLEDGE

The student shall be able to:

1) Understand basics of x-rays production, its uses and hazards.
2) Appreciate and diagnose changes in bones - like fractures, infections, tumors and metabolic bone diseases.
3) Identify and diagnose various radiological changes in disease conditions of chest and mediastinum, Castro intestinal tract, Hepatobiliary system and Cenito Urinary (G.U) system and central nervous system.
4) Learn about various imaging techniques, including radioisotopes, Computerized Tomography (C.T scan), Ultrasound with Color Doppler, Magnetic Resonance Imaging (M.R.I) and D.S.A..
5) Students are posted for 4 weeks in Dept. of Radio-Diagnosis at 7th Semester.
6) Assessment: each student should be assessed at the end of Radio-diagnosis posting by diagnosis of spot films at least 10 films.

SKILLS

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

1) Use basic protective techniques during various imaging procedures.
2) Interpret common X-ray, radio-diagnostic techniques in various community situations.
3) Advise appropriate diagnostic procedures in specialized circumstances to appropriate specialists.

Teaching Hours:

Theory - Ten Hours
Clinical - Four Weeks of Clinical Posting

C) COURSE CONTENTS

I. Respiratory System

1) Various conventional and recent imaging modalities in chest.
2) Diagnosis of common conditions like tuberculosis, consolidation, pleural effusion, pneumothorax, lung abscess, collapse, Immuno compromised diseases (HIV) bronchogenic carcinoma and mediastinal masses, pleural pathologies,
3) Ultrasonographic applications in chest diseases.
4) Indications for chest CT scan & MRI.

II. Cardiovascular System

1) Development of heart.
2) Normal topography of heart, cardiomegaly.
3) Common rheumatic heart diseases and pericardial effusion.
4) Important cyanotic and acynotic congenital heart diseases.

5) Echocardiography and utility of color Doppler.
6) Awareness of Newer modalities in cardiac imaging like MRI & Cardiac multislice CT, Radio-isotope study.
7) Indications of coronary angiography.

III. Gastrointestinal System

1) Diagnosis of acute abdominal conditions like intestinal obstruction, perforation etc.
2) Indications and contraindications for Barium studies.
3) Differential diagnosis of calcification and stones on plain x-ray.
4) Diagnosis of gastric ulcer / duodenal ulcer / cancer stomach / oesophageal cancer, lleocaecal Koch's Intususception,
5) Hirschprung's disease and large bowel carcinoma on Barium studies.
6) Awareness of Newer modalities like CT enteroclysis & MRI.

IV. Hepato Biliary System

1) Cholelithiasis.
2) Ultrasonography in jaundice and pancreatitis.
3) Color Doppler in portal hypertension.
4) Role of CT & MRI in hepato biliary system.

V. Obstetrics and Gynaecology

a) Radiation hazards to a pregnant woman and child> Appropriate time to take x-rays during pregnancy.
b) Ultrasonography in PV bleeding, detection of fetal anomalies, foetal & well being.
c) Indications for transvaginal sonography. (I) Hysterosalphyngography. (HSC)

VI. Skeletal System

a) Diagnosis of common fractures, caries spine, osteomyelitis of bones, nutritional deficiencies like rickets and common bone tumors and diseases of joints.
b) Bone changes in common haemopotic system like Sickle cell anaemia, thalasemia and leukemia.
c) Radiological age estimation of patient (victim).
d) Role of CT & MRI in spine and joints.
e) Radio-isotope studies.

VII. Central Nervous System

1) Limitations of plain radiography in skull.
2) Plain and contrast study of CT & MRI of head & spine.
3) Plain radiography of spine.

VIII. Excretory System

a) Identification of renal calculi in plain film & I.V.U.
b) Ultrasonography of kidney, ureter, bladder & prostate.
c) Role of CT & MRI in excretory system.

IX. Others

1. Role of real-time Ultrasonography in eye (B Scan).
2. X-ray & CT Scan of PNS.
3 Mammography
4 Radioisotope scanning of thyroid.
5 HRCT of inner ear.
6 Musculoskeletal ultrasonography.
7 Color Doppler evaluation of peripheral vascular system.

SKILL

8. Interpret radiographs of common diseases, paper

Scheme of Examination : One or Two Short notes may be asked in surgery theory

Recommended Text books (Latest editions)

Sl.No.	Name of the Textbook	Authors	Publisher
1	Text Book of Radiology & Imaging Vol. I & II	David Sutton	lay Pee Brothers.2.
2	Diagnostic Radiology & Imaging VOL I & II	K. Subba Rao	Jay Pee Brothers.
3	Diagnostic Ultrasound Text & cases.	Sarti	
4	Chistensen's Physics of Diagnostic Radiology	Curry T.S. & Dowdey J.E	Williams & willkins.
5	Textbook of Radiology	Dr.BhushanLakhar	
6	A Guide to Radiological procedures	Chapman	Prism W.B.Saunders.
7	Felson's Principles of Chest Roengentology,		W.B.Saunders.
8	Chest X-Rays Made easy	Come &. Carrol	
9	Radiology and Imaging for Medical students	Sutton	Churchill Livingstone.

RADIOTHERAPY

A) GOAL

The broad goal of teaching the undergraduate medical students in the field of Radiotherapy is to make the students understand the magnitude of the-increasing cancer problems in the country. The students must be made aware about steps required for the prevention and possible cure of cancers.

B) OBJECTIVES

KNOWLEDGE

The student shall be able to :

1. Identify symptoms and signs of various cancers and their steps of investigations and management:
2. Explain the effect of radiation therpy in human beings and the basic principles involved in it:
3. Know about radioactive istopes and their physical properties:
4. Be aware of the advances made in radiotherapy in cancer management and knowledge of various radio therapeutic equipment while treating a patient.

SKILLS

At the completion of the training programme, the student shall be able to :

1) Take detailed clinical history of the case suspected of having a malignant disease;
2) Assist various specialities in administration of anticancer drugs and in application and use of various radiotherapeutic equipement while treating a patient

Departmental objectives

At the end of training in a radiotherapy, the student should be able to:

1) Exhibit the awareness of the principles of radiotherapy, the radio-responsiveness of various tumours and management of common cancers like cervical, breast and oral cancers
2) Refer for further consultant at appropriate time without delay
3) State general complications of irradication and their management
4) List common chemo-therapeutic drugs and toxicity of the same
5) Implement health education programme regarding prevention and early diagnosis of tobacco related cancers, cervical cancers, and breast cancers.
6) Know the general outlines of use of radio-isotopes in diagnosis and therapy

C) COURSE CONTENTS

1) Physical Principles of radiotherapy
2) Principles of chemotherapy
3) Prevention of cancer
4) Early diagnosis of cancer
5) Principles of nuclear medicine
6) Radio responsiveness of various tumours and management
7) Common radiation reactions and management
8) Radiotherapy in some of the commonly seen cancers.
9) Chemotherapy in certain cancers like childhood tumours, leukemia and lymphomas.
10) Radio-isotopes in diagnosis and therapy

D) TEACHING HOURS

Radiodiagnosis and Radiotherapy

Theory 20- Hours Clinical posting 2 weeks.

One or two short notes may be asked in surgery theory paper

Recommended Text books (Latest editions)

Sl.No.	Name of the Textbook	Authors	Publisher
1	Radiology for Radiologist	Eric. J. Hall	STM
2	The Physics of Radiation Therapy	Faig M. Khan	Lippincott Williams and Wilkins
3	Principles and practice of Radiation Oncology	Perez and Bradis	Lippincott Williams and Wilkins
4	Walter and Miller Text Book of Radiotherapy	C K. Bomford I. H. Kunkler	Churchill Livingstone
5	Clinical Radiation Oncology	Leonard L. Gunderson Joel E. Tepper	Churchill Living Stone

ANESTHESIOLOGY

Under Graduate Curriculum

Sl.No	Course contents	Must know	Desirable
1	History & scope of anesthesia	✓	
2	Anatomy of upper airway	✓	
3	Physiology of respiration, oxygen and carbon di oxide transport	✓	
4	Various methods of oxygen therapy	✓	
5	Pre- operative evaluation	✓	
6	Pre- medication	✓	
7	Inhalational anesthetic agents	✓	
8	Stages of anesthesia	✓	
9	Balanced anesthesia	✓	
10	Endotracheal intubation	✓	
11	Spinal & epidural anesthesia	✓	
12	Local anaesthetics	✓	
13	Cardiopulmonary resuscitation	✓	
14	Monitoring	✓	
15	ICU- role of anesthesiologist		✓
16	Functioning of ventilators		✓
17	Poisoning		✓
18	Management of airway in unconscious patient		✓
19	Role of anaesthesiologist in acute and chronic pain		✓

Teaching hours

Theory: 20 hours
Term: 7^{th} / 8^{th} term
Practical: clinical/ hospital work would be part of general surgery O.T. postings

Recommended Books :

1. Dripps R. D. et.al; **Introduction to Anaesthesia,** W. B. Saunders, Philadelphia
2. Lee **J.** A.; **Synopsis of Anaesthesia**
3. Wylie W. D. **A practice of Anaesthesia**

e) SCHEME OF EXAMINATION OF SURGERY AND ITS ALLIED SUBJECTS

Internal assessement: Total marks: 100,(Theory 60 and Clinical 40)

Theory : 60 marks

Minimum of three examinations are recommended. The examination may be similar to the pattern of University examination. Average of three marks obtained in the notified internal examination be taken into consideration for calculating internal assessement. The total marks reduced to 60 and sent to the university.

Clinical : 40 marks

There will be ward leaving examination at the end of III, VIII and IX term postings. At the end of each clinical postings, minimum 10 cases should be written in records and duly corrected by the concerned staff member during clinical internal assessement and a minimum 0f 50 cases to be recorded by the end of IX term. Average of any two best marks obtained in the clinical examination shall be reduced to 40 marks and sent to the university.

NOTE: Out of 40 marks 5 marks is reserved for records.

The internal assessement marks both theory and practical obtained by the candidates should be sent to the university atleast fifteen days prior to the commencement of theory examination. Note that a student shall secure atleast 35% marks of the total marks fixed for assessement in a particular subject in order to be eligible to appear in final university examination.

University Examination

Total marks: 400 (Theory 200, Viva-Voce 40 and Clinical 160)

Theory (written):

There shall be two papers each carrying 100 marks. Each paper shall be of three hours duration. The pattern of questions would be of three types.

Long essay question	- each question carrying	10 marks
Short essay question	- each question carrying	5 marks
Short answer questions	- each question carrying	3 marks

Distribution of subjects in Paper I and Paper II, for the University examination shall be as follows:

Paper I

Max. Marks-100

Section A [Gen Surgery] (III,IV, V, Term syllabus)

1)	Long essay questions	1×10 Marks each	10
2)	Short essay questions	5×5 Marks each	25
3)	Short answers questions	5×3 Marks each	15
		Total	**50 Marks**

Section B [Orthopedics]

1)	Long essay questions	1×10 Marks each	10
2)	Short essay questions	5×5 Marks each	25
3)	Short answers questions	5×3 Marks each	15
		Total	**50 Marks**

Paper II

Max Marks-100 (7th, 8th, & 9th, Term syllabus)

[Gen Surgery including Anaesthesiology, Dental diseases, Radiology, Electrotherapeutics and their application in Surgery]

1)	Long essay questions	2×10 Marks each	20
2)	Short essay questions	10×5 Marks each	50
3)	Short answers questions	10×3 Marks each	30
		Total	**100 Marks**

Clinical Examination

Surgery 120 marks [One long case of 60 marks and two short cases of 30 marks each]
Orthopedics: 40 marks [Two short cases, 20 marks each]

Viva-voce Examination: 40 marks

Surgery 30 marks

Orthopedics 10 marks

Total Marks in Surgery and its Allied Specialties

Theory						Pracicals/Clinicals			
Subject	Paper I	Paper II	Internal Assessment	Viva voce	Total	Practical Examination	Internal Assessment	Total	Grand Total
Surgery	100 (50 Ort+ 50 Sur)	100	60 (45+15)	40 (30+10)	300	160 (120+40)	40 (30+10)	200	500

OBSTETRICS AND GYNAECOLOGY

Course description as specified by the Medical Council of India Obstetrics and gynaecology to include family welfare and family planning

A) 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 and gain the ability to optimally manage common conditions affecting it

B) OBJECTIVES

Knowledge

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

1) Outline the anatomy, physiology and pathophysiology of the reproductive system and the common conditions affecting it;
2) Detect normal pregnancy,labour,puerperium and manage the problems he/she is likely to encounter therein;
3) List the leading causes of maternal and perinatal morbidity and mortality;
4) Understand the principles of contraception and various techniques employed,methods of medical termination of pregnancy, sterilization and their complications;
5) Identify the use abuse and side effects of drugs in pregnancy,premenopausal and post menopausal periods;
6) Describe the national program of maternal and child health and family welfare and their implementation at various levels;
7) Identify common gynaecological diseases and describe principles of their management;
8) State the indications, techniques and complications of surgeries like caesarean section, laparotomy, abdominal and vaginal hysterectomy, fother gills operation and vacuum aspiration for medical termination of pregnancy.

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 post natal care;
3) Resuscitate new born and recognize congenital anomalies;
4) Advice a couple on the use of various available contraceptive devices and assist in insertion and removal of intra uterine contraceptive devices;
5) Perform pelvic examination, diagnose and manage common gynaecological problems including early detection of genital malignancies;
6) Make a cytological smear; perform a post coital test and wet vaginal smear examination for trichomonas vaginalis, monilia, Gram's stain for gonorrhoea;
7) Interpret data of investigations like biochemical, histopathogical, radiological, ultrasound etc.

Integration

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

Departmental objectives

At the end of the training in Obstetrics and Gynaecology, MBBS student will be able to:

Knowledge

1) Appreciate the socio-cultural, economic and demographic factors that influence the practice of Obstetrics and gynaecology
2) Appreciate the principles of reproductive anatomy and physiology
3) Understand the preconception, ante natal, intra natal and post natal factors including drugs that affect the mother and foetus
4) Recognize the changes and adaptations that occur in the mother during pregnancy, labour and puerperium.
5) Impart ante natal care, detect deviations from normal pregnancy and refer risk cases appropriately.
6) Manage normal labour, recognize the factors that may lead to complications and refer such cases appropriately.
7) Institute primary treatment in Obstetrics and Gynaecology emergencies.
8) Resuscitate and take adequate care of the new born.
9) Assist couples w*th infertility*and those requiring contraception.
10) Know the etiopathology and management of menstrual abnormalities.
11) Know about the benign and malignant tumours of the genital tract and appreciate the need for screening and prevention.
12) Recognize the importance of infection and other diseases of the genital tract, know about the displacements of the genital tract and injuries.
13) Understand the implications of medicolegal and ethical issues concerning the specialty.
14) Acquire communication, decision making and managerial skills.

General guidelines for training

1) Students shall attend a maternity hospital or wards of a general hospital including a) antenatal care b) the management of the puerperium c) a minimum period of 5 months in the in patient and out patient sections including family welfare planning;
2) Of this period of clinical instruction, not less than one month shall be spent as a resident pupil in the labour room of maternity ward or a general hospital;
3) During this period, the student shall conduct atleast 10 cases of labour under adequate supervision and assist in ten 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 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 sshall describe his official position.
    b) That satisfactory written histories of the cases conducted including wherever possible ante natal and post natal observations, presented by the student and initiated by the supervising officer.

Course Contents

4TH Term

OBSTETRICS;

I. OBSTETRICS : BROADER PERSPECTIVES — 1 hour

1. Vital statistics, birth rate, maternal mortality, perinatal and neonatal mortality, live birth, still birth, abortion, period of viability including definition of all above

II. ANATOMY OF THE FEMALE REPRODUCTIVE TRACT — 3 hours

1. Basic Anatomy:
   Relationship to other pelvic organs. Applied anatomy as related to Obstetrics and Gynaecological surgery

III. PHYSIOLOGY OF CONCEPTION — 2 hours

1. Ovulation, menstruation, fertilization and implantation
2. Gametogenesis.

IV. DEVELOPMENT OF FOETUS AND PLACENTA — 3 hours

1. Basic embryology, factors influencing foetal growth and development, anatomy of placenta
2. Teratogenesis, placental barrier

V. MATERNAL CHANGES IN PREGNANCY — 2+1 hours

1. Genital tract; cardiovascular system and Haematology
2. Respiratory and gastrointestinal system.

VI. DIAGNOSIS OF PREGNANCY — 2+1 hours

1. Clinical features, differential diagnosis, principles underlying the pregnancy tests, ultrasonography and laboratory investigations.
2. Immunological tests and their interpretation, ultrasonogram

VII. ANTENATAL CARE — 3 hours

1. Objectives of antenatal care; assessment of period of gestation, detection of abnormality with the help of gravidogram; clinical monitoring of maternal and foetal well-being; detection of normal foetal pelvic relation (obstetrical palpation); advise regarding nutrition; prescribing in pregnancy; immunisation against tetanus; basic investigations.
2. Foetal well-being; biophysical monitoring; pelvic assessment.

6th Term

GYNAECOLOGY;

I. PHYSIOLOGICAL VAGINAL DISCHARGE 1 hour

1. Clinical characteristics: Biology of vagina, cytology of vagina, natural defence mechanism against infections, bacterial flora of vagina.

II. PATHOLOGICAL VAGINAL DISCHARGE 2 hours

1. Aetiology, characteristics; clinical recognition; investigation,
2. treatment of common causes; genital hygiene.

III. NORMAL MENSTRUATION AND MENSTRUAL DISORDERS 2 hours

IV. DYSFUNCTIONAL UTERINE BLEEDING 2 hours

1. Aetiopathology, classification; clinical aspects and diagnosis, principles of investigation and management
2. Hormone therapy, management options

V. GENITAL INFECTIONS INCLUDING STD, AIDS, PELVIC TUBERCULOSIS AND INFECTIONS AFFECTING INDIVIDUAL ORGANS AND PELVIC INFLAMMATORY DISEASES 3hours

1. Aetiology, pathology, clinical features, differential diagnosis, principles of basic investigation and medical therapy
2. STD in female
   Tuberculosis of female genital tract
3. Long term implications; surgical management.

VI. DISPLACEMENTS OF UTERUS, GENITAL PROLAPSE 2 hours

I. Aetiology, clinical features; diagnosis principles of management; preventive aspects.

VII BENIGN TUMOURS OF PELVIC ORGANS CERVICAL, UTERINE, OVARIAN (VULVA, VAGINA, BROAD LIGAMENT, FALLOPIAN TUBE AND PARAMETRIUM) 3 hours

1.Aetiology, clinical features; diagnosis, principles of management; preventive aspects

VIII. IMMUNOLOGY IN OBSTETRICS (Desirable) 1 hour

IX. HIGH RISK PREGNANCY 1 hour

X. MEDICO LEGAL ASPECTS – PNDT AND OTHERS (Desirable) 1 hour

XI. HORMONES IN GYNAECOLOGY 3 hours

XII. SEX AND INTERSEXUALITY AND MULLERIAN AGENESIS (Desirable) 1 hour

XIII. PHARMACOTHERAPEUTICS IN OBSTETRICS; 2 hours

Oxytocin, antihypertensives, tocolytics, anticonvulsants,and maternal drug intake

7th Term

I. ABNORMAL OBSTETRICS

Complications of early pregnancy;

A. i) ABORTIONS: definition, types, causes, Management of incomplete, inevitable abortion,
ii) RECURRENT ABORTIONS.
iii) INDUCED ABORTION : Aetiopathology, impact on maternal principals of management — 3 hours

B. ECTOPIC PREGNANCY: Causes, clinical features,differential diagnosis of acute abdomen, and conservative management of ectopic pregnancy and Principles of surgical management — 1 hour

C. TROPHOBLASTIC DISEASES : Aetiopathology, -clinical, features, differential diagnosis, principles of management, follow up — 2 hours

D. CHORIOCARCINOMA (Desirable)

E. MEDICAL TERMINATION OF PREGNANCY — 1hour
i. Legal aspects; indications, methods; complications
ii. Management of complications.

II. HYPEREMESIS GRAVIDARUM: — 1 hour
Definition, aetiology, clinical features and management.

III. BREAST FEEDING — 1 hour
Physiology of lactation, care of breasts; counseling regarding breast feeding, mastitis and breast abscess

IV. FAMILY PLANNING AND CONTRACEPTION — 8 hours
Various methods and devices; selection of patients; counselling of couples; side effects; failures and complications; Laproscopic sterilisation, Vasectomy, Tubectomy

V. SAFE MOTHERHOOD, OBSTETRIC CARE AND THE SOCIETY (Desirable) — 1 hour

VI. CAUSES AND PREVENTION OF MATERNAL MORBIDITY AND MATERNAL MORTALITY IN HOSPITAL AND COMMUNITY SETTINGS — 1 hour

VII. REPRODUCTIVE AND CHILD HEALTH PROGRAMME — 1 hour

8th Term

OBSTETRICS;

I. ANTEPARTUM HAEMORRHAGE : 5 hours
Classification,
(a) aetiopathology,
(b) Accidental haemorrhage, } clinical features, differential diagnosis,
(c) Placentaprevia: } Ultra-sonography,complicationsand Management

II. SHOCK IN OBSTETRICS AND DIC 2hours

III. MALPRESENTATIONS : 8 hours
cord prolapse and contracted pelvis
causes, salient features, principles of management of occipito posterior, face and brow presentation, breech delivery.
Obstructed labour: definition, clinical features, prevention, management

IV. MULTIPLE PREGNANCIES: 3 hours
causes, clinical features, investigations, diagnosis and complications, principles of management.

V. UTERINE DYSFUNCTION: 2 hours
Classification; recognition of uterine dysfunction; principles of induction and acceleration of labour

VI. NEONATAL PROBLEMS AND RESUSCITATION 2 hours

VII. CARE OF NEW BORN 1 hour
Assessment of maturity, detect asphyxia, principles of resuscitation, common problems

VIII. HEMOLYTIC DISEASES INCLUDING Rh ISO IMMUNISATION MECHANISM; PROPHYLAXIS, FOETAL COMPLICATIONS.(NIHF) 2 hours

IX. ABNORMAL PUERPERIUM : 4 hours
Physiology, clinical features; complications; recognition and principles of management, prevention of puerpeural sepsis.

X. PROLONGED LABOUR AND OBSTRUCTED LABOUR 2 hours

XI. PROGRAMMED LABOUR, ACTIVE MANAGEMENT OF LABOUR 1 hour

XII. W.H.O PARTOGRAM 1 hour

XIII. SHOULDER DYSTOCIA 1 hour

GYNAECOLOGY;

XIV.	PRE-CANCEROUS LESIONS OF GENITAL TRACT	2 hours
XV.	SCREENING PROCEDURES IN GYNAECOLOGY	3 hours
XVI.	CLINICAL ASPECTS OF MENOPAUSE	3 hours
XVII.	LOW BACK ACHE, CHRONIC PELVIC PAIN (Desirable)	1 hour
XVIII.	PUBERTY	1 hour
XIX.	PAEDIATRIC AND ADOLSCENT GYNAECOLOGICAL PROBLEMS	2 hours

9TH Term

OBSTETRICS;

I. POST-CAESAREAN PREGNANCY — 2 hours

II. PRE-TERM LABOUR, P.R.O.M , POST MATURITY AND INTRA-UTERINE DEATH — 4 hours

III. COMPLICATIONS OF THIRD STAGE OF LABOUR: — 7 hours
Complications; predisposing factors, prevention; management of atonic PPH and management of injuries to the lower genital tract.

IV. PREGNANCY INDUCED HYPERTENSION: — 10.hours
a) Definition; early detection; investigations; principles and management of pregnancy induced hypertension and eclampsia
b) Aetiopathology, differential diagnosis of convulsions in pregnancy, complications of eclampsia.

V. ANAEMIA IN PREGNANCY: — 4 hours
Aetiology, classification, diagnosis, investigations, adverse effects in the mother and labour, management.

VI. MEDICAL DISORDERS : — 2+2+2 hours
Like heart disease/diabetes mellitus and urinary tract infection
a) Clinical features; early detection; effect of pregnancy on the disease and impact of the disease on pregnancy, Complications of the diseases
b) Viral and bacterial infections, Syphilis, Viral hepatitis (Desirable) — 5 hours

VII.	GYNAECOLOGICAL DISORDERS IN PREGNANCY: (Desirable) Fibroid in Pregnancy, ovarian tumour, Retroverted gravida uterus, genital prolapse and pregnancy, Cancer cervix with pregnancy	4 hours
VIII.	INDUCTION OF LABOUR	2 hours
IX.	FOETAL DISTRESS AND INTRAPARTUM FOETAL MONITORING	1 hour

GYNAECOLOGY;

X.	CARCINOMA CERVIX Aetiopathology, clinical features; classification, screening procedures, investigations, diagnosis and principles of management	4.hours
XI.	CARCINOMA OF ENDOMETRIUM	4 hours
XII.	MALIGNANT OVARIAN TUMORS	4 hours
XIII.	CARCINOMA VULVA AND MISCELLANEOUS (Desirable)	1 hour
XIV.	RADIOTHERAPY IN GYNECOLOGY (Desirable)	2 hours
XV.	CHEMOTHERAPY IN GYNECOLOGY (Desirable)	2 hours
XVI.	IMAGING TECHNIQUES IN GYNECOLOGY	2 hour
XVII.	INJURIES OF GENITAL TRACT & FISTULAE (Desirable)	3 hours
XVIII.	DISEASES OF BREAST	1 hour
XIX.	AMENORRHOEA, PRIMARY AND SECONDARY : Causes and principles of management	4 hours
XX.	FERTILITY AND INFERTILITY 1. Causes in male and female; Physical examination of both female and male partners; essential investigations and interpretation 2. Management options; principles of Medically Assisted Reproductive Technology (MART)	2 hours 4 hours
XXI.	ENDOMETRIOSIS AND ALLIED STATES	3 hours

CLINICAL CURRICULUM

3RD Term Posting

1) ANC history taking
2) Gynaec history taking
3) Bedside manners

4TH & 5TH Term Posting

1) Obstetric and gynaec examinations
2) Diagnosis of pregnancy
3) Antenatal care
4) Normal labour
5) Normal puerperium
6) Types of pelvis
   - Contracted pelvis
   - Fetal skull
   - CPD assessment
   - Trial of labour

Demonstration of Operative Procedures

D&C, Menstrual regulation, D&E, Episiotomy, fractional curettage, endometrial biopsy, cauterization, cryotherapy, cervical polypectomy and cervical stitch

6TH / 7TH Term Posting

1. Vaginal discharge
   i. - physiological
   ii. - pathological
   iii. aetiology/ clinical featurea/ diagnosis / management
2. Normal menstruation and menstrual disorders
3. DUB clinical features /investigation / management
4. PID clinical features /investigation / management
5. Prolapse clinical features /investigation / management
6. ovarian tumours clinical features /investigation / management

Demonstration of operative procedures

LSCS, IPV, ECV, vacuum forceps, destructive operations, tubal patency test, amputation of cervix,

8TH Term Clinicals (Resident Pupil)

Obstetrics - (must know)

1. APH- Abruptio placenta
    a. Placenta praevia
2. Intra partum monitoring, partogram
3. Conduct of normal labour
4. Assisting-10
5. Performed under supervision- 2-5
6. 3rd stage complication- PPH, retained placenta, Inversion of uterus
7. Indications for LSCS, post op management
8. Malpresentation, malposition, dummy and pelvis
9. Multiple pregnancy
10. Abnormal uterine action
11. Management of normal puerperium, abnormal puerperium
12. Tubectomy, contraceptive methods with model

Desirable

1) Molar pregnancy
2) HIV & pregnancy
3) Grand multi
4) Ectopic pregnancy
5) Elderly primi

Gynaecology

Must know

1) Screening for CA cervix, colposcopy
2) Prolapse uterus- operative procedures
   Mass per vaginum-D/D
3) Fibroid uterus- Myomectomy, abdominal hysterectomy
4) Ovarian tumours, mass per abdomen-D/D

9TH Term Clinicals

Obstetrics

Must know

1) PIH-3
2) Anaemia in pregnancy-2
3) Post dated pregnancy-1
4) Pre term labour-2
5) Previous LSCS-2
6) Cardiac disease in pregnancy-1
7) Diabetes in pregnancy-1
8) Breech presentation (revision)-1
9) IUGR/IUD-2
10) Drugs in obstetrics-demonstration-1
11) Instruments in OBG
    - Specimens in exams

Gynaecology

Revision

1) Prolapse
2) Fibroid
3) DUB
4) Ovarian tumours
5) Infertility- Detailed case discussion

TEACHING HOURS

Theory

Teaching of obstetrics and gynaecology extends from 4th to 9th term, during 2nd and 3rd phase of M.B.B.S total number of teaching would be 300 hrs out of which 40 hours are for integrated teaching

THEORY CLASSES
DEPARTMENT OF OBG

TERM	No of classes per week	No: of hours
4TH term	1 class	20
6TH term	1 class	20
7TH term	1 class	20
8TH term	4 classes	80
9TH term	6 classes	120

Time allotted for integerated teaching (including Seminars and tutorials) 40 hours

Total : 300 hrs

Clinical Postings

3RD Term	1 Month Each
4TH & 5TH Term	1 & ½ Months
6/7 Term	1 Month
8TH Term	1 Month-Resident pupil
9TH Term	1 Month

Scheme of examination in Obstetrics and gynaecology
Internal assessment: total marks: 100 (theory 60 and clinical 40)

Theory: 60 marks

Minimum of three examinations are recommended. The 9th term examination preceding the university examination may be similar to the university examination. Average of all the three internal marks obtained in the notified internal examinations be taken into consideration for calculating internal assessment.

Clinical: 40 marks

There will be ward leaving examinations at the end of 4th /5th ,8th and 9th. Average of all the three marks obtained in the clinical examination shall be taken and sent to the university.

Note: Out of 40 marks, 5 marks, is resured for records.

The internal assessment marks both theory and practical obtained by the candidate should be sent to the university at least 15 days prior to the commencement of theory examination.

Note that a student shall secure at least 35 % marks of the total marks fixed for internal assessment in a particular subject in order to be eligible to appear in final university examination.

University Examination:

Total marks : 400 (Theory 200, Viva voce 40 and Clinical 160)

Theory (written paper)

There shall be two papers each carrying 100 marks.
pattern of questions would be of three types.

Paper – I (Obstetrics)

Max. marks – 100

1)	Long essay questions	2 x 10 marks each	20
2)	Short essay questions	10 x 5 marks each	50
3)	Short answers questions	10 x 3 marks each	30
		Total	**100 marks**

Paper – II (Gynaecology)

Max. marks – 100

1)	Long essay questions	2 x 10 marks each	20
2)	Short essay questions	10 x 5 marks each	50
3)	Short answers questions	10 x 3 marks each	30
		Total	**100 marks**

Distribution of subjects in Paper 1- Obstetrics including social obstetrics
Paper 2- Gynaecology, family planning and demography
(Shall contain two /three question on basic sciences and allied subjects)

Clinical: 160 marks 2 cases

1 long case of obstetrics and 1 long case of gynaecology-80 marks each

Viva-voce : 40 marks

Components are:

Instruments
Specimens
Dummy & pelvis
Family planning
Record of delivery cases 10
NST/ USG / X-ray (desirable)
Integrated teaching 40 hrs

Topics for integrated teaching with the other departments:

Sl no.	Topics	No. of hours	Department
1.	Family planning	4	Post partum centre
2.	Embryology-integrated foetal growth and development	4	Anatomy
3.	Physiological changes in pregnancy with maternal adaptation	4	Physiology
4.	Rational use of drugs and prescribing in pregnancy	4	Pharmacology
5.	Nutrition and anaemia in pregnancy	4	Medicine
6.	Urological problems in obst. And gyne.	2	Urology
7.	Acute abdomen-Management and care of the abdomen	4	Surgery

8.	Neonatal resuscitation	4	Pediatrics
9.	Neonatal problems-Jaundice, umbilical infection, convulsions	2	Pediatrics
10.	Ultrasound in obst.	2	Radiology
11.	Radiology in obstetrics	1	Radiology
12.	Gynaecological malignancies	2	Pathology
13.	MCH services: Objectives and implementation	2	Community medicine
14.	Psychiatric problems related to obst. And gyne.	1	Psychiatry

Recommended Books

Obstetrics:

Mudaliar and Menon- Clinical obstetrics, 9th edition, orient longman
Dutta DC Text book of obstetrics including perinatology and contraception, 6th edition
C S Dawn text book of ostetrics
Shirish N Daftary manual of obstetrics

Reference books

1. Williams Obstetrics
2 Gabbe –niebyl- simpsons nnormal and problem pregnancy
3 Dewhurst obstetrics and gynecology

Gynaecology

1) Shaw's text book of gynaecology
Padubidri VG and Shirish N Daftary,
2) Text book of gynaecology Dutta DC
3) Text book of gynaecology Dawn CS

Reference books

Jeffcoate , Principles of Gynaecology
Novaks gynaecology
Te linde's operative gynaecology

SECTION – V

INTERNSHIP

1. Introduction:

MBBS Internship Training Programme is based on Medical Council of India (MCI) regulations on Graduate Medical Education May 1977.

After successfully completing Phase III - Part II Clinical subjects MBBS students enter Internship. It is a compulsory one year period of rotatory training wherein a candidate is expected to do actual practice of medical and health care and acquire skills under supervision. It would enable him/her function independently as a unit of health and medical care system.

The Internship will be periodically assessed and certified by the heads of the department and on completion by the head of institution.

2. General aim:

Internship is a phase of training wherein a student who has passed final MBBS examination is expected to conduct actual practice of medical and health care and acquire skills under supervision so that he/she is capable of functioning independently.

3. Specific Objectives:

At the end of internship training, the trainee shall be able to.

i) Diagnose clinically common disease conditions as encountered in practice and make timely decision for referral to higher level whenever required.

ii) Use descretly the essential drugs, infusions, blood or its substitutes and laboratory services.

iii) Manage emergencies - medical, surgical, obstetrics, neonatal, paediatric and other allied specialties by rendering first level care.

iv) Demonstrate skills in monitoring of the National Health Programmes and schemes, oriented to provide preventive and promotive health care services to the community keeping social accountability in mind.

v) Develop leadership qualities to function effectively as a leader of the health team organized to deliver the health and family welfare services in existing socioeconomic, political and cultural environment and observe ethical principles.

vi) Render services to chronically sick and disabled (both physical and mental) and to communicate effectively with patients and the community.

vii) Practice clerking, case record keeping and maintenance of necessary registers, for better patient care and to understand medico-legal implications and Consumer Protection Act.

4. Duration of posting in various departments

COMPULSORY

• Community Medicine	2 months
• Medicine Including 15 days Psychiatry	2 months
• Surgery Including 15 days Anaesthesia	2 months
• Obst/Gynae. Including Family Welfare Planning	2 months
• Peadiatrics	2 months
• Orthopaedics Including PMR	2 months
• ENT	2 months
• Ophthalmology	2 months
• Casualty	2 months

- Total

Elective Postings will include two of the following for 15 days in each subject.

- Dermatology and Sexually Transmitted Diseases
- Tuberculosis and Respiratory Diseases
- Radio Diagnosis
- Forensic Medicine
- Blood Bank
- Psychiatry

5. Other Details:

i) All parts of the internship shall be done as far as possible in institutions of India. In case any difficulties the matter may be referred to the Medical Council of India to be considered on individual merit.

ii) Every candidate will be required after passing the final MBBS examination to undergo compulsory rotational internship to the satisfaction of the College authorities and University concerned for a period of 12 months so as to be eligible for the award of the degree of Bachelor of Medicine and Bachelor of Surgery (MBBS) and full registration.

iii) The University shall issue a provisional MBBS pass certificate on passing the final examination.

iv) The State Medical Council will grant provisional registration to the candidate on production of the provisional MBBS pass certificate. The provisional registration will be for a period of one year. In the event of shortage or unsatisfactory work, the period of provisional registration and the compulsory rotating internship may be suitably extended by the appropriate authorities.

v) The intern shall be entrusted with clinical responsibilities under direct supervision of senior medical officer. They shall not be working independently.

vi) Interns will not issue a medical certificate or a death certificate or a medicolegal document under their signature.

vii) In recognition of the importance of hands-on experience, full responsibility for patient care and skill acquisition, internship should be increasingly scheduled to utilize clinical facilities available in District Hospital, Taluka Hospital, Community Health Centre and Primary Health Centre, in addition to Teaching Hospital. A critical element of internship will be the acquisition of specific experiences and skills as listed in major areas:

Provided that where an intern is posted to District/Sub Divisional Hospital for training, there shall be a committee consisting of representatives of the college/university, the State Government and the District administration, who shall regulate the training of such trainee.

Provided further that for such trainee a certificate of satisfactory completion of training shall be obtained from the relevant administrative authorities which shall be countersigned by the Principal/Dean of College.

viii) Adjustment to enable a candidate to obtain training in elective clinical subjects may be made.

ix) The medical college shall establish links with one entire district

extending out-reach activities. Similarly, Re-orientation of Medical Education (ROME) scheme may be suitably modified to assure teaching activities at each level of District health system which will be coordinated by Dean of the medical college:

x) Out of one year, 6 months shall be devoted to learning tertiary care being rendered in teaching hospital/district hospital suitably staffed with well qualified staff, 3 months of secondary care in a small District or Taluka Hospital/Community Health Centre and 3 months in primary health care out of which 2 months should be in Primary Health Centre with full attention to the implementation of national Health Programme at the Community level. One month of primary care training may be in the form of preceptorship with a practicing family physician or voluntary agency or other primary health care provider.

6. ASSESSMENT OF INTERNSHIP:

i) The intern shall maintain a record of work which is to be verified and certified by the medical officer under whom he works. Apart from scrutiny of the record of work, assessment and evaluation of training shall be undertaken by an objective approach using situation tests in knowledge, skills and attitude during and at the end of training. Based on the record of work and date of evaluation, the Dean/Principal shall issue certificate of satisfactory completion of training, following which the University shall award the MBBS degree or declare him eligible for it.

ii) Satisfactory completion shall be determined on the basis of the following

1. Proficiency of knowledge required for each case SCORE 0-5
2. The competency in skills expected to manage each case :
   a. Competency for performing minor procedures,
   b. Of having assisted in procedures,
   c. Of having observed. SCORE 0-5
3. Responsibility, punctuality, work up oi case, involvement in treatment, follow-up reports. SCORE 0-5
4. Capacity to work in a team (Behavior with colleagues, nursing staff and relationship with paramedicals). SCORE 0-5
5. Initiative, participation in discussions, research aptitude. SCORE 0-5

Poor/ Fair / Below average / average/ above average / excellent
0 1 2 3 4 5

A score of less than 3 in any of above items will represent unsatisfactory completion of internship.

7) Full registration shall only be given by the State Medical Council /Medical Council of India on the award of the MBBS degree by the university or its declaration that the candidate is eligible for it.

8) Some guidelines in the implementation of the training programme are given . below.

9) INTERNSHIP - DISCIPLINE RELATED :

I) Community Medicine

Interns shall acquire skills to deal effectively with an individual and the community in the context of primary health care. This is to be achieved by hands on experience in the district hospital and primary health centre. The details of training are as under:

Community Health Centre/District Hospital/Attachment to General Practioner :

1) During this period of internship an intern must acquire
   a. Clinical competence for diagnosis of common ailments, use of bed side investigation and primary care techniques :
   b. Gain information on 'Essential drugs' and their usage ;
   c. Recognize medical emergencies, resuscitate and institute initial treatment and refer to suitable institution ;

2) Undergo specific Government of India/Ministry of Health and Family Welfare approved training using Government of India prescribed training manual for Medical Officers in all National Health Programmes (e.g. child survival and safe mother hood-EPI, CDD, ARI, FP, ANC safe delivery, Tuberculosis, Leprosy and others as recommended by Ministry of Health and Family Welfare :-
   a. Gain full expertise in immunization against infectious disease ;
   b. Participate in programmes in prevention and control of locally prevalent endemic diseases including nutritional disorders ;
   c. Learn skills first hand in family welfare planning procedures ;
   d. Learn the management of National Health Programmes ;

3) Be capable of conducting a survey and employ its findings as a measure towards arriving at a community diagnosis.

4) a. conduct programmes on health education,
   b. gain capabilities to use Audiovisual aids,
   c. acquire capability of utilization of scientific information for promotion of community health.
   Be capable of establishing linkages with other agencies as water supply, food distribution and other environmental / social agencies.

5) Acquire quality of beirlg professional with dedication, resoursetulness and leadership.

6) Acquire managerial skills, delegation of duties to paramedical staff and other health professionals.

i) Taluka Hospital:

Besides clinical skill, in evaluation of patient in the environment and initiation of primary care, an Intern shall :-

1) effectively participate with other members of the health team with qualities of leadership;
2) make a community diagnosis in specific situations such as epidemics and institute relevant control measures for communicable diseases ;
3) develop capability for analysis of hospital based morbidity and mortality statistics.
4) use of essential drugs in the community with the awareness of availability, cost and side effects ;
5) provide health education to an individual/community on :
   a. tuberculosis;
   b. small family, spacing, use of appropriate contraceptives ;
   c. applied nutrition and care of mothers and children ;
   d. immunization ;
   e. participation in school health programme.

ii) Primary Health Centre

1) Initiate or participate in Family composite health Care (birth to death), Inventory of events ;
2) participate in all of the modules on field practice for community health e.g. safe motherhood, nutritional surveillance and rehabilitation, diarrohea disorders etc.;
3) acquire competence in diagnosis and management of common ailments e.g. malaria, tuberculosis, enteric fever, congestive heart failure, hepatitis, meningitis, acute rental failure etc.;
4) acquire proficiency for Family Welfare Programmes (ante natal care, normal delivery, contraception care etc.)

II) GENERAL MEDICINE

Interns shall acquire following training during their term.

1. acquire competence for clinical diagnosis based on history, physical examination and relevant laboratory investigation and institute appropriate line of management
2. this would include diseases common in tropics (parasitic, bacterial or viral infections, nutritional disorders, including dehydration and electrolyte disturbances) and system illnesses.

II) The intern shall have assisted as a care team in intensive care of cardiac, respiratory, hepatic, neurologital and metabolic emergencies .

III) The intern shall be able to conduct the following laboratory investigations :
   a. Blood : (Routine haematology smear and blood groups)
   b. Urine :(Routine chemical and microscopic)
   c. Stool : (for ova/cyst and occult blood)
   d. Sputum and throat swab for gram stain or acid fast stain and
   e. Cerebro Spinal Fluid (CSF) for smear.

IV) Conduct following diagnostic procedures :
   A. Urethral catheterization; Proctoscopy; Ophthalmoscopy /Otoscopy; Indirect laryngoscopy;
   B. Therapeutic procedures ; Insertion of Ryles Tube; Pleural, ascitic tap, Cerebro Spinal Fluid (CSF) tap, maintaining the patent air way tube, Oxygen administration etc.

V) Biopsy Procedures :
Liver, Kidney, Skin, Nerve, Lymph-node, and muscle biopsy, Bone marrow aspiration, Biopsy of malignant lesions on surface, Nasal/nerve/skin smear for leprosy.

VI) a. Familiarity with usage of life saving procedures; including use of aspirator, respirator and defibrillator,
b. Competence in interpretation of different monitoring devices such as cardiac monitor, blood gas analysis etc.

VII) Participate as team member in total health care of an individual include appropriate follow-up and social rehabilitation.

VIII) Other competencies as indicated in general objectives

III) PAEDIATRICS:

The details of the skills that an intern shall acquire during his / her tenure in th department of Paediatrics are as follows.

The intern shall be able to :

1) diagnose and mange common childhood disorders including neonatal disorder and acute emergencies (enquiry from parents of sick children), examining a sicl child making a record of information ;

2) carry out activities related to patient care such as laboratory work, investigative procedures and use of special equipments. The details are given as under :-

a. diagnostic techniques : blood (including from femoral vein and umbilicai cord), cerebrospinal fluid, urine, pleura and peritoneum and common tissue biopsy techniques ;

b. techniques related to patient care : immunization, perfusion techniques, feeding procedures, tuberculin testing & breast feeding counselling ;

c. use of equipment: vital monitoring, temperature monitoring rescuscitation at birth and care of children receiving intensive care ;

3) screening of newborn babies and those with objective risk factors for any anomalies and steps for prevention in future;

4) plan in collaboration with parents and individual, collective surveillance of growth and development of new born babies, infants and children so that he/she is able to;

a. recognize growth abnormalities;
b. recognize anomalies of psychomotor development;
c. detect congenital abnormalities;

5) assess nutritional and dietary status of infants and children and organize prevention, detection and follow up of deficiency disorders both at individual and community level such as :

a. protein - energy malnutrition ;
b. deficiencies of vitamins especially A,B,C, and D ;
c. Iron deficiency ;

6) Institute early management of common childhood disorders with special reference to Paediatrics dosage and oral rehydration therapy.

7) Participate actively in Public Health Programme oriented towards children in the community.

IV) GENERAL SURGERY

An intern is expected to acquire following skills during his/her posting :

A) Diagnose with reasonable accuracy all surgical illnesses including emergencies.

B) a. resuscitate a critically injured patient and a severe burns patients :
b. control surface bleeding and manage open wound;

C) a. monitor patients of head, spine, chest, abdominal and pelvic injury ;
b. institute first-line management of acute abdomen ;

D)
a. perform venesection ;
b. perform tracheostomy and endotracheal intubation ;
c. catheterize patients with acute retention or perform trocar cystostomy
d. drain superficial abscesses,
e. suturing of wound,
f. perform circumcision,
g. biopsy of surface tumours,
h. perform vasectomy,

V) CASUALTY :

The Intern after training in Casualty must be able to :

1) identify acute emergencies in various disciplines of medical practice ;
2) manage acute anaphylactic shock:;
3) manage peripheral - vascular failure and shock;
4) manage acute pulmonary oedema and Left Ventricular failure (L.V.F.);
5) undertake emergency management of drowning, poisonings and seizures ;
6) undertake emergency management of bronchial asthma and status asthmaticus ;
7) undertake emergency management of hyperpyrexia ;
8) undertake emergency management of comatose patients regarding airways, positioning, prevention of aspiration and injuries ;
9) assess and administer emergency management of burns ;
10) assess and do emergency management of various trauma victims ;
11) Identify medicolegal cases and learn filling up forms as well as complete other medicolegal formalities in cases of injury, poisoning, sexual offenses, intoxication and other unnatural conditions.

VI) OBSTETRICS AND GYNAECOLOGY:

Technical skills that interns are expected to learn :

1) diagnosis of early pregnancy and provision of ante-natal care ;
2) diagnosis of pathology of pregnancy related to
   a. abortions ;
   b. ectopic pregnancy ;
   c. tumours complicationing pregnancy ;
   d. acute abdomen in early pregnancy ;
   e. hyperemesis gravidarum ;
3) detection of high risk pregnancy cases and suitable advise e.g. PIH, hydramanios, antepartum haemorrhage, multiple pregnancies, abnormal presentations and intrauterine growth retardation ;
4) antenatal pelvic assessment and detection of cephalopelvic disproportion ;
5) induction of labour and amniotomy under supervision ;
6) management of normal labour, detection of abnormalities, postpartum hemorrhage and repair of perinial tears ;
7) assist in forceps delivery ;
8) assist in caesarean section and postoperative care there of ;
9) detection and management of abnormalities of lactation ;
10) perform non-stress test during pregnancy ;
11) per speculum, per vaginum and per rectal examination for detection of common congenital, inflammatory, neoplastic and traumatic conditions of vulva, vagina, uterus and ovaries ;
12) , medicolegal examination in Gynaecology and Obstetrics.
13) to perform the following procedures :
   a. Dilatation and curettage and fractional curettage ;
   b. Endometrial biopsy ;
   c. Endometrial aspiration ;
   d. Pap smear collection;
   e. Intra Uterine Contraceptive Device (IUCD) insertion ;
   f. Minilap ligation ;
   g. Urethral catheteisation ;
   h. Suture removal in postoperative cases ;

i. Cervical punch biopsy.

14) to assist in major abdominal and vaginal surgery cases in Obstetrics and Gynaecology.

15) to assist in follow up postoperative cases of obstetrics and gynaecology such as :
   a. Colposcopy;
   b. Second trimester Medical Termination of Pregnancy (MTP) procedures e.g. Emcredyi Prostaglandin instillations ;

16) To evaluate and prescribe oral contraceptive.

VII) OTO RHINO LARYNGOLOGY (END)

1) Interns shall acquire ability for a comprehensive diagnosis of common Ear, Nose and Throat (ENT) diseases including the emergencies and malignant neoplasma of the head and neck :

2) he/she shall acquire skills in the use of head mirror, otoscope and indirect laryngoscopy and first line of management of common Ear, Nose and Throat (ENT) problems ;

3) he/she shall be able to carry out minor surgical procedures such as : -
   i. Ear syringing, antrum puncture and packing of the nose for epistaxis.
   ii. Nasal douching and packing of the externa! canal.
   iii. Remove the foreign bodies from the nose and ear.
   iv. Observed or assisted in various endoscopic procedures and tracheostomy :

4) an intern shall have participated as a team member in the community diagnosis ; e.g. Chronic Suppurative Otitis Media (CSOM) and be aware of n programme on prevention of deafness.

5) he/she shall possess knowledge of various ENT rehabilitative programme;

VIII) OPHTHALMOLOGY;

An intern shall acquire skills : .

1) he/she shall be able to diagnose and manage common ophthalmoli conditions such as :- Trauma, Acute conjunctivitis, allergic conjunctivitis, xerosis, entropion, cc . ulcer, iridocyclitis, myopia, hypermetropia, cataract, glaucoma, ocular injur; sudden loss of vision ;

2) he shall be able to carry out assessment of refractive errors and advis correction:

3) he shall be able to diagnose ocular changes in common systemic disorders ;

4) he/she shall be able to perform investigative procedures such as :- Tonometry, syringing, direct ophthalmoscopy, subjective refraction fluorescein statining of cornea.

5) he/she shall have carried out or assisted the following procedures :
   1. Subconjunctival injection;
   2. Ocular bandaging ;
   3. Removal of concretions ;
   4. Epilation and electroysis ;
   5. Corneal foreign body removal ;
   6. Cauterization of corneal ulcers ;
   7. Chalazion removal ;
   8. Entropion correction ;

9. Suturing conjuctival tears ;
10. Lids repair;
11. Glaucoma surgery (assistaed) ;
12. Enucleation of eye in cadaver:

6) he/she shall have full knowledge on available methods for rehabilitation of the blind.

IX) ORTHOPEDICS:

The aim of teaching the undergraduate student in Orthopedics and Rehabilitation is to impart such knowledge and skills that may enable him to diagnose and treat common ailments. He-shall have ability to diagnose and suspect presence of fracture, dislocation, acute osteomyelitis, acute poliomyelitis and common congenital deformities such as congential talipes equinovarus (CTEV) and dislocation of hip (CDH)

A) Therapeutic - An intern must know :

a. Splinting (plaster slab) for the purpose of emergency splintage, definitive splintage and postoperative splintage and application of Thomas splint:
b. Manual reduction of common fractures - phalangeal, metacarpo phalangial, metatarsal and colles's fracture;
c. Manual reduction of common dislocations - interphalangeal. Metacarpophalangeal, elbow and shoulder dislocation;
d. Plaster cast application for undisplaced fractures arm, fore arm, leg and ankle;
e. Emergency care of a multiple injury patient;
f. Precaution about transport and bed care of spinal cord injury patient.

B) Skill that an intern should be able to perform under supervison:

1. Advise about prognosis of poliomyelitis, cerebral palsy, CTEV and CDH
2. Advise about rehabilitation of amputees and mutilating traumatic and leprosy deformities of hand ;

C) An intern must have observed or preferably assisted at the following operations:

1. drainage for acute osteomyelitis;
2. sequestrectomy in chronic osteomyeiities;
3. application of externalfixation;
4. internal fixation of fractures of long bones.

X) DERMATOLOGY AND SEXUALLY TRANSMITTED DISEASES

An intern must be able to:-

1. conduct proper clinical examination; elicit and interpret physical findings, and diagnose common disorders and emergencies.
2. perform simple, routine investigative procedures for making bedside diagnosis, specially the examination of scrapings for fungus, preparation of slit smears and staining for AFB for leprosy patient and for STD cases;
3. take a skin biopsy for diagnostic purpose;
4. manage common diseases recognizing the need for referral for specialized care in case of inappropriateness of therapeutic response.

XI) PSYCHIATRY:

An intern must be able to:

1) diagnose and manage common psychiatric disorders;
2) identify and manage psychological reaction and psychiatric disorders in medical and surgical patient in clinical practice and community setting

XII) TURBERCULOSIS AND RESPIRATORY DISEASES:

An intern after training must be able to:-

1) conduct proper clinical examination, elicit and interpret clinical findings and diagnose common respiratory disorders and emergencies:
2) perform simple , routine investigative procedures required for making bed side diagnosis, specially sputum collection, examination for etiological organism like - AFB, interpretation of chest X-rays and respiratory function test;
3) interpret and manage various blood gases and pH abnormalities in various respiratory diseases;
4) manage common diseases recognizing need for referral for specialized care in case of inappropriateness of therapeutic response;
5) perform common procedures like laryngoscopy, pleural aspiration respiratory physio - therapy , laryngeal intubation and pneumo-thorax aspiration/ drainage

XIII) ANAESTHESIA:

After the internship in the department of Anaesthesiology an intern shall acquire knowledge, skill and attitude to:

1) perform pre-anesthetic check up and prescribe pre-anesthetic medications;
2) perform venepuncture and set up intravenous drip;
3) perform laryngoscopy and endotracheal intubation;
4) perform lumbar puncture, spinal anesthesia and simple nerve blocks ;
5) conduct simple general anesthesia procedures under supervision;
6) monitor patients during anesthesia and post-operative period;
7) recognize and manage problems associated with emergency anesthesia;
8) maintain anesthesia records;
9) recognize and treat complication in post operative period;
10) perform cardio-pulmonary brain resuscitation (C.P.B.R) correctly, including recognition of cardiac arrest.

XIV) RADIO DIAGNOSIS:

An intern after training must be able to identify and diagnose;

1) all aspects of ' Emergency Room, Radiology like -
   a. all acute abdominal conditions;
   b. all acute traumatic conditions with emphasis on head injuries;
   c. differentiation between medical and surgical radiological emergencies;
2) Basic hazards and precautions in radiodiagnostic practices.

XV) PHYSICAL MEDICINE AND REHABILITATION;

An intern is expected to acquire the following skills during his/her internship:-

1) competence for clinical diagnosis based on detailed history and assessment of common disabling conditions like poliomyelitis, cerebral palsy, hemiplegia, paraplegia, amputations etc;
2) participation as a team member in total rehabilitation including appropriate follow up of common disabling conditions;

3) principles and procedures of fabrication and repair of artificial limbs and appliances;
4) various therapeutic modalities;
5) use of self help devices and splints and mobility aids;
6) familiarity with accessibility problems and home making for the disabled;
7) ability to demonstrate simple exercise therapy in common conditions like prevention of deformity in polio, stump exercise in an amputee etc;

XVI) FORENSIC MEDICINE AND TOXICOLOGY:

The intern is to be posted in the casualty department of the hospital while attached under forensic medicine department with the following objectives:

1) to identify medicolegal problems in a hospital and general practice;
2) to identify and learn medicolegal responsibilities of a medical man in various hospital situations;
3) to be able to diagnose and learn management of basic poisoning conditions in the community;
4) to learn how to handle cases of sexual assault;
5) to be able to prepare medico-legal reports in various medicolegal situations ;
6) to learn various medico legal post-mortem procedures and formalities during its performance by police.

Extension Period of Internship

The internship shall be completed within two year from the date of passing Under extraordinary circumstances or due to unavoidable reasons if further extension is required, such a candidate shall apply to the Registrar KLE University through the Head of Institution. Such an application may be scrutinized carefully by the Head of Institution and forwarded to the University with specific observations for further consideration

Migration / Transfer

All parts of the internship shall be done as far as possible in the institution in which he/she has obtained his / her MBBS training. Claim for migration/transfer is not a right of the student. Transfer within the city from one college to another is not permissible

A candidate desirous of transfer must obtain permission from both the heads of the Institution i.e. one in which the candidate studied and the one in which transfer is sought. The number of candidates permitted to take transfer is subject to the limit 20% of the student passing from that college and entering internship training excluding the students belonging to NRI quota. The same condition is applicable to the college, which accepts the transferred students i.e. not exceeding 20% of the students entering internship training excluding students admitted to NRI quota.

Responsibility

Intern shall be entrusted with clinical responsibilities under supervision of a medical teacher/senior medical officer. They shall not work independently. Interns shall not issue medical certificate, death certificates or a medico legal document under their signature

Every intern shall maintain a record of work done in the prescribed diary/log book. It shall be verified and certified by the supervisor under whom the-intern works.

Award of Degree and full Registration

Every candidate will be required after passing the final MBBS Examination to undergo compulsory rotatory internship for a period 12 months to the satisfaction of college and university authorities concerned so as to be eligible for the award of the degree of Bachelor of Medicine and Bachelor of Surgery (MBBS) and full registration.

Internship Diary cum Logbook

Particulars of skills / abilities to be developed during posting in different departments

An intern is expected to acquire practical and clinical skills as well as communication abilities during internship. Given below is a model list, which may be used as guide for training and evaluation. It will also serve as a logbook. The skills have been categorized as:

- Skills or procedures to be observed - O
- Skills procedures that an Intern will assist - A
- Skills or procedures performed by intern with assistance under supervision - PA
- Skills or procedure to be performed independently - PI Note : refer logbook for further details

SECTION – VI

TEACHING OF MEDICAL ETHICS IN M.B.B.S. COURSE

1. INTRODUCTION

Medical ethics is a systematic effort to work within the ethos of medicine, which has traditionally been service to sick.

There is now a shift from the traditional individual patient, doctor relationship, and medical care. With the advances in science and technology and the needs of patient, their families and the community, there is an increased concern with the health of society. There is shift to greater accountability to the society. Doctors and health professionals are confronted with many ethical problems. It is, therefore necessary to be prepared to deal with these problems.

In keeping with its goal to improve quality of education, KLE University, recommends introduction of medical ethics in the regular teaching of M.B.B.S. course beginning from the first year and continuing till the internship.

2. OBJECTIVES

The objectives of teaching medical ethics should be to enable to students develop the ability to:

1) Identify underlying ethical issues and problems in medical practice.
2) Consider the alternatives under the given circumstances, and
3) Make decisions based on acceptable moral concepts and also tradition's practices.

3. COURSE CONTENTS (SYLLABUS)

1) Introduction to Medical Ethics
   What is Ethics ?
   What are values and norms ?
   Relationship between being ethical and human fulfillment.
   How to form a value system in one's personal and professional life ?
   Heteronomous Ethics and Autonomous Ethics.
   Freedom and personal Responsibility.

2) Definition of Medical Ethics
   Difference between medical ethics and bio-ethics.
   Major Principles of Medical Ethics

Beneficence	=	fraternity
Justice	=	equality
Self determination (autonomy)	=	liberty

3) Perspective of Medical Ethics The Hippocratic oath
   The Declaration of Helsinki The WHO Declaration of Geneva International code of Medical Ethics (1993) Medical Council of India Code of Ethics (2002)

4) Ethics of the Individual The patient as a person The Right to be respected Truth and Confidentiality The autonomy of decision
   The concept of disease, health and healing
   The Right to health
   Ethics of behaviour modification
   The Physician - Patient relationship
   Organ donation

5) The Ethics of Human life What is human life?
   Criteria for distinguishing the human and the non-human
   Reasons for respecting human life
   The beginning of human life
   Conception, contraception
   Abortion
   Prenatal sex-determination
   In vitro fertilization (IVF), Artificial Insemination by Husband (AIH)
   Artificial Insemination by Donor (AID),
   Surrogate motherhood, Semen Intrafallopian Transfer (SIFT),
   Gamete Intrafallopian Transfer (ZIFT),
   Genetic Engineering

6) The Family and Society in Medical Ethics The Ethics of human sexuality
   Family Planning perspectives
   Prolongation of life
   Advanced life directives - The Living Will
   Euthanasia
   Cancer and Terminal Care

7) Death and Dying
   Use of life-support systems
   Death awareness
   The moment of death
   Prolongation of life
   Ordinary and extraordinary life support
   Advanced life directives
   Euthanasia - passive and active
   Suicide - the ethical outlook
   The right to die with dignity

8) Profession Ethics
   Code of conduct
   Contract and confidentiality
   Charging of fees, Fee- splitting
   Prescription of drugs Over-investigating the patient
   Low -cost drugs, vitamins and tonics
   Allocation of resources in health care
   Malpractice and Negligence

9) Research Ethics
   Animal and experimental research / humanness
   Human experimentation
   Human volunteer research - Informed Consent
   Drug trials

1) Ethical workshop of cases
   Gathering all scientific factors
   Gathering all human factors
   Gathering all value factors
   Identifying areas of value - conflict, setting of priorities,
   Working our criteria towards decisions

4. TEACHING/LEARNING EXPERIENCE

Classroom teaching would foclis on professional relationship, patient-doctor relationship, issues at the beginning and end of life, reproductive technologies, resource allocation and health policy. It will also deal with values, ethical concepts and principles.

Clinical ethics must be taught as part of bedside teaching group discussion, case studies, problem analyzing and problem solving exercises may also be employed.

Demonstrating by example, how to identify and resolve a particular problem. Increasing the awareness and knowledge of students of the value dimensions of interactions with the patients, colleagues, relations and public.Fostering the development of skills of analysis, decision making and judgment.

Making the students aware of the need to respect the rights of the patient as also duties and responsibilities of the doctor.

Recommended distribution of Teaching hours in different phases of MBBS Course

Total Teaching Hours : 40

Phase I : Preclinical Period -6 hours
2 hours each by Anatomy, physiology, Biochemistry during the I^{5t} year.

Phase II : Paraclinical Period - 6 hours
2 hours each from Pharmacology, Pathology and Microbiology.

Phase III : Community Medicine - 4 hours
2 hours each from Ophthalmology and ENT = 4 hours.
2 hours each in two terms from Medicine, Surgery, and OBG = 12 hours.
8 hours from other clinical departments.
N.B. : The teaching of Medical Jurisprudence by the department of Forensic Medicine will continue as before.

5) EVALUATION

At least one short answer question may be asked on medical ethics appropriate to the subjects in the university question paper. A few questions may be asked during viva voce examination.

6) RECOMMENDED READING (LATEST EDITION)

Sl. No	Name of the Textbook	Authors	Publisher
1)	Medical Ethics.	Francis CM.	
2)	Ethical Guidelines for Biomedical Research on Human Subjects		Indian Council of Medical Research, New Delhi.

SECTION – VII

CORE VALUES'IN THE CHANGING CONTEXT -QUALITY CONSCIOUSNESS

All the world over, including in India, the context in which Higher Educational Institutions (HEIs) have to function is changing. The need to expand the system of higher education, the impact of technology on educational delivery, the increasing private participation in higher education and the impact of globalization, are the drivers of the changing scenario in Indian Higher Education. These changes and the consequent shift in values have to be taken cognizance of, while formulating the core values (outlined below) of the organization.

i) Contributing to National Development:
Most of the HEIs have a remarkable capacity to adapt to changes, while at the same time persuing the avowed goals and objectives they have set forth for themselves. Contributing to National Development has always been a goal of Indian HEIs, explicitly or implicitly. The HEIs have a significant role in building on the changes to the advantage oi the country and to contribute to the development of the nation. Serving the cause of social justice, ensuring equity and increasing access to higher education are a few ways to contribute to national development. It is appropriate that the organizations look into the way HEIs have responded to the goal of national development in the changing context.

ii) Fostering Global Competencies among students:
The developments in the Global scenario warrant the university to include in its scope of assessment, the development of skills of students on par with their counterparts abroad. With liberalization and globalization of economic activities, the need to develop human resources of a high caliber and consequently, the demand for higher education at nationally comparable and international acceptable standard has increased. While increasing access to higher education and ensuring social justice will continue to be important objectives of national development, developing internationally and inter-culturally competent human resources is of equal importance. Therefore, implementing the process that will examine the role of HEIs in preparing students with global competencies to successfully face the changing global scenario is essential. This requires the HEIs to be innovative, creative, entrepreneurial in their approach to skill development among students. It may involve collaborating with industries, networking with neighborhood and fostering a closer relationship between the world of work and the world of learning.

iii) Inculcating a Value System in students:
Although skill development is crucial to the success of students in the job market, skills are of no value in the absence of an appropriate value system. HEIs have to shoulder the responsibility of inculcating a desirable value system in students. In a country like India with cultural pluralities and diversities, it is essential that students imbibe values commensurate with social, cultural, economic and environmental realities at the local, national and universal levels. There can be no dispute about inculcation core universal values like truth and righteous conduct, as well as the values emphasized in the various policy documents of the country, whatever be the pluralities and diversities that exist in the country. The

values shown in the early stages of education, mostly aimed at cooperation and mutual understanding, have to be re-emphasized in the institutions of higher education by appropriate campus experiences. Institution will examine how essential and desirable values are being inculcated in students.

iv) Promoting the Use of Information, Communication and Technology (ICT)

Most of the significant developments that one can observe today can be attributed to the impact of science and technology. While the advantages of using modern tools in day today life are well recognized, the use of technology in our way of "learning" and "administering" leaves much to be desired. The degree of use of technological innovations in educational transactions, both academic and administrative, indicates that our system of education is still uncomfortable with new technology. At a time when our educational institutions are expected to do more with less input, they should make proper use of readily available technological innovations.

Obviously traditional methods of delivering higher education have become inadequate. To keep pace with the developments in other spheres of human endeavor, HEIs have to build on the recent technological developments and enrich the learning experiences they provide to students. The campus community may need to be prepared adequately to make the optimum use of information and communication technology (ICT). Conscious effort is needed to invest in hardware and train the faculty suitably to overcome their initial reluctance in using anything new and gadget-oriented.

In addition to using technology as learning resource, managing the activities of the Institution in a technology-enabled way is sure to contribute to effective institutional functioning. For example, documentation and data management in HEIs are areas which make a significant impact. With a great potential in computer technology that the country has, institution shall facilitate institutions to improve further in those areas. Moving towards electronic data management and having institutional websites to provide relevant information to stakeholders, are the right steps in this direction. In other words, effective use of ICT in HEIs involves providing ICT literacy to the campus community, using ICT for resource sharing and net working, using ICT enabled administrative processes etc. Therefore University would look at how HEIs put in place, electronic data management systems and electronic resources.

v) Quest for Excellence :

While contributing to nation building and development of students, institutions should also demonstrate their drive to develop themselves in to centers of excellence. Excellence in all that they do, will contribute to the over all development of system of higher education as a whole. This quest for excellence could start with the establishment of the Internal Quality Assurance Mechanism in an institution. Another step could be the identification of strengths and weaknesses in the processes of teaching and learning carried out by the institution, particularly in relation their linkages with the core values. The Institution is always free to expand or modify the core values in conformity with the goals and mission of Institution.

The facets of Quality Management system are the main processes of developing the capabilities of an institution : the role of the Internal Quality Mechanism would be to raise the capabilities to higher and higher levels such that the institution becomes better and better. This may involve identifying

various process that develop capabilities and institutional quality. Creating mechanisms and developing competencies among members of the institution to deal with quality enhancement, creating feed back mechanisms from ail related stakeholders who are using the institutional out put; obtaining process information in quantitative and qualitative forms, and using the information in reforming each process. Establishing a quality management system is no doubt a continuos reform process. One of the major outcomes of process will be the internalization and institutionalization of quality so that the Institution strives to excel in serving its students and learners. The quest to become a quality Institution is itself a core value that HEis have to imbibe and demonstrate in their functioning.

The values outlined above form the foundation of the functioning of Institution.

ANNEXURE-I

DIFFERENT METHODS RECOMMENDED FOR INTERNAL ASSESSMENT

The Medical Council of India has given some examples of Methods for Internal assessment of Students, which may be followed by the College. They are:

1) Credit for preparation and presentation of seminars by students
2) Preparation of Clinical case for presentation
3) Clinical case study/problem solving exercises
4) Participation in project for health care in the Community
5) Proficiency in conducting a small research project or assignment
6) Multiple choice questions (MCQ test after completion of a chapter / system)

Each item shall be objectively assessed and recorded. Some of the items can be assigned as home work/vacation work etc.

ANNEXURE-II

A comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) Graduate: (by Medical Council of India in Regulations on Graduate Medical Education, 1997)

A comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) Graduate : (by Medical Council of India in Regulations on Graduate Medical Education , 1997)

I) Clinical Evaluation:

a) To be able to take a proper and detailed history
b) To perform a complete an thorough physical examination and elicit clinical signs.
c) To be able to properly use the Stethoscope, Blood pressure apparatus, Otoscope, Thermometer, Nasal speculum etc.,
d) To be able to perform internal examination - per rectum (PR), per vaginum (PV) etc.,
e) To arrive at a proper provisional clinical Diagnosis

II) Bed Side Diagnosis Test:

a) To do and interpret haemoglobin (Hb), total count (TC), erythrocyte edimentation rate (ESR), blood smear for parasites, urine examination/ albumin/ sugar/ ketones / microscopy
b) Stool exam for ova and cysts
c) To do Gram's stain ancTZiel - Neilsen Stain for AFB
d) To do skin smear for lepra bacilli
e) To do and examine a wet film vaginal smear for Trichomonas
f) To do a skin scraping and Potassium hydroxide (KOH) stain for fungal infections
g) To perform and read Mantoux Test

III) Ability to carry out procedures

a) To conduct CPR (Cardiopulmonary resuscitation) and First sid in newborns, children and adults.
b) To give subcutaneous (SQ/Intramuscular (IM)/Intravenous (IV) injections and start Intravenous (IV) infusions.
c) To pass a nasogastric tube and give gastric lavage
d) To administer oxygen - by mask/catheter
e) To administer enema
f) To pass a urinary catheter - male and female
g) To insert flatus tube
h) To do pleural tap, ascitic tap and lumbar puncture
i) Insert intercostal tube to relieve tension pneumothorax
j) To relieve cardiac tamponade
k) To control external haemorrhage

IV) Anaesthestic Procedures:

a) Administer local anesthesia and nerve block.
b) Be able to secure airway patency, administer oxygen by Ambu bag.

V) Surgical Procedure:

a) To apply splints, bandages and plaster of Paris (POP) slabs
b) To do incision and drainage of abscesses
c) To perform the management and suturing of superficial wounds
d) To carry out minor surgical procedures e.g., excision of small cysts and nodules, circumcision, reduction of paraphimosis, debridement of wounds etc.,
e) To perform vasectomy.
f) To manage anal fissures and give injection for piles.

VI) Obstetric Procedures:

a) To perform thorough antenatal examination and identify high risk pregnancies
b) To conduct normal delivery
c) To apply low forceps and perform and suture episiotomies .
d) To insert and remove IUD's and to perform tubectomy

VII) Paediatrics:

a) To assess new born and recognize abnormalities and I.U. retardation
b) To perform immunization
c) To teach infant feeding to mothers
d) To monitor growth by the use of "Road to Health Chart" and to recognize development retardation
e) To assess dehydration and prepare and administer Oral Rehydration Therapy (ORT)
f) To recognize ARI Clinically.

VIII) ENT Procedures:

a) To be able to remove foreign bodies
b) To perform nasal packing for epistaxis
c) To perform tracheostomy

IX) Ophthalmic Procedures:

a) To invert eyelids
b) To give subconjunctival injection.
c) To perform epilation of eye - lashes
d) To measure the refractive error and advise correctional glasses
e) To perform nasolacrimal duct syringing for patency

X) Dental Procedures:

a) To perform dental extraction.

XI) Community Health

a) To be able to supervise and motivate, Community and Para-professionals for co-operative efforts for the health care.
b) To be able to carry on managerial responsibilities, e.g., Management of stores, indenting, Stock keeping and accounting
c) Planning and management of Health Camps
d) Implementation of national Health Programmes
e) To effect proper sanitation measures in the Community e.g., disposal of infected garbage, chlorination of drinking water.
f) To identify and institute control measures for epidemics including its proper data collecting and reporting

XII) Forensic Medicine including Toxicology :

a) To be able to carry on proper medicolegal examination and documentation of injury and age reports.

b) To be able to conduct examination for sexual offenses and intoxication.

c) To be able to preserve relevant ancilliary materials for Medicolegal Examination

d) To be able identify important post-mortem finding in common un-natural deaths.

XIII) Management of Emergencies :

a) To manage acute anaphylactic shock.

b) To manage peripheral vascular failure and shock

c) To manage acute pulmonary oedema and LVF

d) Emergency Management of drowning poisoning and seizures

e) Emergency Management of bronchial asthma and status asthmaticus

f) Emergency Management of hyperpyrexia

g) Emergency Management of comatose patients regarding airways, positioning prevention of aspiration and injuries.

h) Assessment and emergency management of burns

ANNEXURE-III

SCHEDULE-I (SEE RULE-5)
Categories of Bio-Medical Waste

** Waste Category No.	Waste Category ** Type	Treatment & Disposal ** Options
Category No.1	Human Anatomical Waste (Human Tissues, organs,body parts)	Incineration @/deep burial*
Category No. 2	Animal Waste (animal tissues, organs, body parts carcasses, bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals colleges, discharge from hospitals, animal houses)	Incineration @/deep burial*
Category No. 3	Microbiology & Biotechnology Waste (Waste from laboratory cultures, stocks or specimens vaccines, human and animal cell culture used in research and infectious agents from research and industrial laboratories, wastes from production of biologicals, toxins, dishes and devices used for transfer of cultures)	Local autoclaving/micro-waving/incineration @
Category No. 4	Waste sharps(needles, syringes, scalpels, blades, glass. Etc., that may cause puncture and cuts. This inclused both used and unused sharps)	Disinfection (chemical treatment@@/auto claving/micro-waving and mutilation/shredding**
Category No.5	Discarded medicines and Cytotoxic Drugs (Wastes comprising of outdated. Contaminated and discarded medicines)	Incineration/destruction and drugs disposal in secured landfills