THE TAMIL NADU
Dr. M.G.R. MEDICAL UNIVERSITY
CHENNAI - 32

REVISED (NON-SEMESTER)
REGULATIONS FOR THE THIRD
MBBS DEGREE COURSE

June 2000

Rs.

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY CHENNAI

REGULATIONS FOR THE BACHELOR OF MEDICINE AND BACHELOR OF SURGERY COURSE

In exercise of the powers conferred by Section 44 of the Tamil Nadu Dr. M.G.R. Medical University, Chennai Act 1987 (Tamilnadu Act 37 of 1987) the Standing Academic Board of the Tamil Nadu Dr. M.G.R . Medical University hereby makes the following regulations:

SHORT TITLE AND COMMENCEMENT

These Regulations shall be called "THE REVISED (NON-SEMESTER) REGULATIONS FOR THE THIRD M.B.B.S. COURSE OF THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY, CHENNAI".

They shall come into force from February 2000. These regulations are applicable to the students who are admitted to the Bachelor of Medicine and Bachelor of Surgery course from the academic year 1997-98 onwards and undergoing the Third M.B.B.S. course from the year 2000 onwards.

These regulations are subject to modification as made by the Standing Academic Board from time to time.

I. GENERAL OBJECTIVES AND TEACHING APPROACH:

1. Graduate Medical curriculum is oriented towards training students to undertake the responsibilities of a general practitioner who is capable of looking after the preventive, promotive, curative and rehabilitative aspects of Medical care.

2. With a wide range of career opportunities available today a graduate has a wide choice of career opportunities. The graduate training should be broad based and provide the essential knowledge and skills required for basic health care in our country.

3. To undertake the responsibilities of various service situations it is essential to provide adequate placement training tailored to the needs of such services. To avail of opportunities and engage in professional activities the graduate shall endeavour to acquire basic training in different aspects of medical care.

4. The importance of the community aspects of health care and of rural health care services is to be emphasised by exposure to such experiences in all the three phases of graduate medical education and training. This has to be further intensified by providing exposure to field practice areas and training during the internship period. The aim of the period of rural training during internship is to enable the fresh graduates to function effectively under such settings.

5. The educational experience should emphasize health and community orientation instead of only disease and hospital orientation or being concentrated on curative aspects.

6. Enough experience must be provided for self learning. The methods and techniques that would ensure this must become a part of the teaching - learning process.

7. The medical graduate of modern scientific medicine shall endeavour to become capable of functioning independently in both urban and rural environments. He / She shall endeavour to master the fundamental aspects of the subjects taught and all common problems of health and disease avoiding unnecessary details of specialization.

8. The importance of social factors in relation to the problem of health and disease should receive proper emphasis through out the course. To achieve this purpose the educational process should also be community based rather than only hospital based. The importance of population control and family welfare planning should be emphasized throughout the period of training.

9. Adequate emphasis is to be placed on cultivating logical and scientific habits of thought, clarity of expression and independence of judgement, ability to collect and analyse information and to correlate the facts.

10. The educational process should be placed in a historical background as an evolving process and not merely as an acquisition of a large number of disjointed facts without a proper prospective. The history of Medicine with reference to the evolution of medical knowledge both in this country and in the rest of the world should form a part of this process.

11. Lectures alone are generally not adequate as a method of training and a means of transferring information and are even less effective at skill development and in generating the appropriate attitudes. Every effort should be made to

encourage the use of active methods related to demonstration and first hand experience. Students shall be encouraged to learn in small groups through peer interaction and to gain maximal experience through contact with patients and the communities in which the patients live. While the curriculum objectives often refer to areas of scientific knowledge, they are best taught in a setting of clinical relevance with hands on experience for the students to assimilate this knowledge and make it a part of their own working skills.

12. The graduate medical education in clinical subjects should be based primarily on coaching in the wards and in out-patient and emergency departments as well as within the community including peripheral health care institutions. The wards and out-patient departments should be suitably planned to provide training to graduates in small groups.

13. Clinics should be organized in small groups of preferably not more than 10 students so that a teacher can give personal attention to each student with a view to improving his skill and competence in handling of patients.

14. Proper records of the work should be maintained which will form a basis for the student's internal assessment. They should be available to the inspectors at the time of inspection of the college by the Medical Council of India.

15. Maximal efforts have to be made to encourage integrated teaching between traditional subject areas using a problem based learning approach starting with clinical or community cases and exploring the relevance of various preclinical and paraclinical disciplines in both understanding and resolving a problem. Every attempt must be made to avoid

compartmentalisation of disciplines and to achieve both horizontal and vertical integration throughout the M.B.B.S. Course.

16. Every attempt is to be made to encourage students to participate in group discussions and seminars to enable them to develop personality, character, expression and other faculties which are necessary for a medical graduate to function either in solo practice or as a team member/leader when he begins his independent career. A discussion group should not have more than 20 students.

17. Faculty members should avail of modern educational technology while teaching the students. To attain this objective Medical Education Units/Departments should be established in all medical colleges for faculty development and providing learning resource material to teachers.

18. To derive maximum advantage out of this revised curriculum the vacation period of students in one calendar year should not exceed one month during the 4½ years of Bachelor of Medicine and Bachelor of Surgery (M.B.B.S.) Course.

II. COURSE OF STUDY

1. **Duration:** Every M.B.B.S Student shall undergo a period of certified study extending over 4½ academic years followed by one year of Compulsory Rotating Resident Internship. After completing the first two phases of the course comprising a minimum period of 2½ academic years the student shall commence the Third Phase of the Course. This phase named Third M.B.B.S. consists of two academic years and is divided into two parts of one year each.

2. **Working Days:** Each academic year shall consist of approximately 240 teaching days. Each day shall comprise of 8 college working hours including one hour interval. The clinical posting shall be done in the forenoon session. Rest of the teaching hours should be divided between didactic lectures, clinical demonstrations, seminars, symposia, group discussions etc. in various subjects.

3. **Curriculum:** During phase III of the M.B.B.S. course the clinical subjects of medicine, paediatrics, surgery, ophthalmology, otorhinolaryngology and obstetrics and gynaecology are taught besides community medicine.

Part I: At the end of one year of study in phase III the candidate shall be examined in three subjects namely ophthalmology, otorhinolaryngology and community medicine in the part I examination of III M.B.B.S.

Part II: At the end of 3½ years of study in phase II and phase III the candidate shall be examined in four subjects namely medicine, surgery, obstetrics and gynaecology and paediatrics in the part II examination of III M.B.B.S.

The details of the curriculum and syllabi prescribed for the subjects of the III M.B.B.S. course are given in the Annexure.

4. **Record Note Books:** Every student must maintain a record of the practical / clinical work assigned to him in the record note books. These shall be submitted periodically to the respective Professors. At the end of the course the practical / clinical case record note books shall be submitted to the heads of the departments who shall evaluvate and include the marks in the Internal Assessment. Records need not be submitted at the University practical examination.

In respect of failed candidates the marks awarded for records at the first attempt may be carried over to the next examination attempt. If a candidate desires he / she may be permitted to improve on the performance by submission of fresh record note books.

5. **Integration:** Each of the clinical departments shall provide integrated teaching calling on pre-clinical, para-clinical and other clinical departments to join in exposing the students to the full range of disciplines relevant to each clinical area of study. Problem oriented approach shall be emphasised.

6. **Teaching schedule for clinical subjects** (Phases II and III)

A. THEORY CLASSES:

Didactic lectures, demonstrations and seminars etc. in addition to clinical postings as under. The Clinical lectures should be held from 4th Semester onwards. Lectures in Community Medicine, EN.T. and Ophthalmology shall be conducted in III M.B.B.S. Part - I.

↳ General Medicine	:	300 Hours
↳ Paediatrics	:	100 Hours
↳ T.B. and Chest	:	20 Hours
↳ Psychiatry	:	20 Hours
↳ Skin and S.T.D.	:	30 Hours
↳ Community Medicine	:	50 Hours
↳ Anaesthesia	:	20 Hours
↳ General Surgery	:	300 Hours
↳ Orthopaedics (Including Physical Medicine)	:	100 Hours

- Ophthalmology : 100 Hours
- E.N.T. : 70 Hours
- Radiology : 20 Hours
- Dentistry : 10 Hours
- Obstetrics & Gynaecology : 300 Hours
  Inclusive of Family Welfare

NOTE:

This period of training is the approximate minimum suggested. Adjustments may be made as required depending on availability of time. Extra time available may be devoted to other sub-specialities.

This period of training does not include the University examination period.

B. CLINICAL POSTINGS:

The clinical posting shall be for 3 hours daily during the forenoons.

At the beginning of the clinical course, i.e. on entry into Phase II the whole batch shall be given an introductory course in clinical methods of 2 weeks each in Medicine and Surgery.

Subsequently in each of the 7 semesters (half years) of the 3½ year clinical course (i.e. Semesters 3,4, and 5 in II MBBS, 6 and 7 in III MBBS Part I and 8 and 9 in III MBBS part II) the students shall be posted in small batches by rotation in various clinical departments as per the chart below:

PERIOD OF CLINICAL POSTINGS IN WEEKS

Subjects	3rd Semester	4th Semester	5th Semester	6th Semester	7th Semester	8th Semester	9th Semester	Total weeks
General*** Medicine	6	-	2	-	4	6	6	24
Paediatrics	-	2	-	2	2	4	-	10
TB & Chest Diseases	-	2	-	-	-	-	-	2
Skin & STD	-	2	-	2	-	2	-	6
Psychiatry	-	-	4	-	-	-	-	4
Radiology*	-	-	-	-	2	-	-	2
General **** Surgery	6	-	4	-	2	6	6	24
Anaesthesiology	-	-	-	-	-	-	2	2
Orthopaedics**	-	-	4	4	-	-	2	10
Ophthalmology	-	4	-	4	2	-	-	10
Ear, Nose & Throat	-	4	-	4	-	-	-	8
Obst. & Gynae. including Family Welfare Planning*****	2	4	4	-	4	4	6	24
Community Medicine	4	4	-	4	-	-	-	12
Casualty	-	-	-	2	-	-	-	2
Dentistry	-	-	-	-	2	-	-	2
Total (in weeks)	18	22	18	22	18	22	22	142

Note: Clinical methods in medicine & surgery for whole class will be for 2 weeks each respectively at the start of 3rd semester.

* The posting includes training in Radio Diagosis and Radio-therapy where existent.

** This posting includes exposure to Rehabilitation & Physio therapy

*** This posting includes exposure to Laboratory Medicine & Infectious diseases.

**** This posting includes exposure to dressing.

***** This includes Maternity Training & Family Medicine and the 3rd semester posting shall be in Family Welfare Planning.

III. INTERNAL ASSESSMENT

1. A minimum of Four written examinations shall be conducted in each subject during an academic year and the average marks of the three best performances shall be taken into consideration for the award of internal assessment marks. Assignments completed by candidates as home work or vacation work may also be considered.

2. A minimum of three Practical / Clinical examinations shall be conducted in each subject during an academic year and the average marks of the two best performances shall be taken into consideration for the award of internal assessment marks. Mark awarded for maintenance of records should be included in the internal assessment of practical / clinical performance.

3. A failed candidate in any subject should be provided an opportunity to improve his / her internal assessment marks by conducting a minimum of two examinations each in theory and practical separately and the average be considered for improvement.

4. The internal assessment marks awarded both in written and clinical separately should be submitted to the University endorsed by the Head of the institution atleast fifteen days prior to the commencement of the theory examinations.

5. A candidate should obtain a Minimum of 50% of marks in internal assessment in a subject to be permitted to appear for the University examination in that subject. For this purpose the combined marks of theory and clinical I.A. shall be considered.

IV. UNIVERSITY EXAMINATIONS

1. TIMING OF EXAMINATIONS

III MBBS Part I examination shall be conducted at the end of one academic year of study in phase III.

III MBBS Part II examination shall be conducted at the end of two academic years of study in phase III.

2. EXEMPTION IN PASSED SUBJECTS

Candidates who fail in an examination but pass in one or more individual subjects shall be exempted from re-examination in the passed subjects.

3. CARRY OVER OF FAILED SUBJECTS

a. A student who fails in the II MBBS examination at the end of phase II shall be permitted to carry the failed subjects to phase III of the MBBS course but shall not be allowed

to appear in III MBBS Part I examination unless he / she passes all the subjects of the II MBBS examination. Appearing for III MBBS Part I examination is compulsory before entering Part II of Phase III i.e. the final year of the course.

b. Passing in III MBBS Part I examination is not compulsory before entering for Part II training; however passing of III MBBS Part I examination is compulsory for being eligible to appear for III MBBS Part II examination.

c. Revaluation of Examination papers is not permitted. Only retotalling of theory answer scripts is permitted as per rules.

V. CLASSIFICATION OF SUCCESSFUL CANDIDATES

a. Classification shall be done for III MBBS Part I and Part II examinations separately.

b. First Class may be awarded to such candidates who have passed all the subjects at the first appearance and obtained 60% of marks and above in the aggregate of all the subjects in each part of the III MBBS course.

c. Candidates who have passed all the subjects at the first appearance and obtained 75% of marks and above in the aggregate of all the subjects shall be awarded first class with distinction.

d. All other successful candidates shall be deemed to have passed in second class.

VI. ATTENDANCE REQUIRED FOR ADMISSION TO EXAMINATION

a. No candidate shall be permitted to any one of the parts of III MBBS Examinations unless he / she has attended the course in the subject for the prescribed period in an affiliated institution recognised by this University and produces the necessary certificate of study, attendance and progress from the Head of the Institution.

b. A candidate is required to put in a minimum of 80% attendance in both theory and practical / clinical classes separately in each subject before admission to the examination.

c. Attendance earned by the student in theory and practical / clinical classes separately in each subject shall be certified by the respective heads of the departments and forwarded by the head of the institution so as to reach the University atleast fifteen days prior to the commencement of the theory examinations.

d. A candidate lacking in the prescribed attendance and progress in any one subject in the first appearance shall be denied admission to the entire examinations (Part I or Part II as the case may be).

e. Any candidate who does not appear for an examination due to lack of attendance shall be permitted to appear at the next exam session if he puts in a minimum of 80% attendance in the extended period of study.

f. Failed candidates who are not promoted to the next phase of study are also required to put in a minimum of 80% attendance during the extended period of study before appearing for the next examination.

VII. REGULATIONS FOR CONDONATION OF LACK OF ATTENDANCE

Condonation of shortage of attendance upto a maximum of 10% below the prescribed minimum attendance for admission to examination vests with the discretionary powers of the Vice - Chancellor. A candidate lacking in attendance should submit an application in the prescribed form and remit the stipulated fee atleast ten days prior to the commencement of the theory examination. The Head of the Department and Head of the Institution should satisfy themselves on the reasonableness of the candidate's request while forwarding the application with their endorsement to the Controller of Examinations who shall place it before the Vice - Chancellor for consideration. No application shall be considered if it is not forwarded through proper channel.

Condonation for lack of attendance shall be taken up for consideration under the following circumstances:

a. Any illness afflicting the candidate. (The candidate should have submitted to the Head of the Institution a Medical Certificate from a registered Medical Practitioner soon after he returned to the Institution after treatment. The Medical Certificate shall be attached to the application for condonation.)

b. Any unforeseen tragedy in the family. (The parent / guardian should have given in writing the reason for the ward's absence to the Head of the Institution and this should be enclosed with the application for condonation).

c. Participation in NCC / NSS, Sports and other co-curricular activities representing the institution or University. (The Head of the Institution should instruct the concerned officers in-charge of the respective student activities in their institution to endorse the leave application. A report by the concerned officer on such leave availed shall be attached with the application for condonation.)

d. Any other leave the Head of the Institution deems reasonable for condonation. (duly supported with documents)

VIII. MIGRATION / TRANSFER OF CANDIDATES

Migration from one Medical College to another Medical College is not permitted during the Third MBBS course.

IX RE-ADMISSION AFTER BREAK OF STUDY

1. If any candidate discontinued the course due to various reasons and the break of study of the candidate is for more than six months and he/she desired to rejoin the course permission should be obtained from the university provided the vacancy exists.
2. Candidates having a break period of study of 5 years and above or more than two spells of break will not be considered for re-admission.

3. If the break of study is for less than 5 years the candidate shall apply for readmission in the prescribed form to the academic officer of the university along with the remittance of the stipulated fee.

4. If the candidate had completed the course of study in any phase and appeared for an examination before discontinuing study, he / she shall be exempted from appearing for the examinations in the passed subjects (eg. a candidate carrying phase II subjects in Phase III Part. I)

5. If the period of break of study does not exceed one calendar year the candidate may be readmitted in the corresponding course of study (III MBBS Part I or Part II) in the middle of the course. They shall complete the balance of the prescribed duration of the course and fulfil the regulation of the University on attendance and progress before being admitted to the examinations.

6. If the break of study exceeds one calendar year the candidate may be permitted to rejoin the course at the beginning of the III MBBS course and undergo the full prescribed period of study in phase III of the MBBS course on readmission.

7. The readmitted candidates shall subscribe to the regulations of this University governing the batch which they join on readmission.

Annexure - A. Syllabus for III MBBS Part - I

OPHTHALMOLOGY

Departmental Objectives:

At the end of training in the subject of ophthalmology, an MBBS student should be able to:

Identify the abnormal conditions of the eye.

Diagnose various eye diseases which are most prevalent in the country.

Manage various eye conditions like conjunctivitis, sty, chalazion and foreign body.

Recognise and give medical treatment of anterior segment diseases.

Identify the national objectives and be an active participant in the National Programme for Prevention and Control of Blindness.

Recognise the ophthalmic manifestations of systemic diseases.

COURSE CONTENTS

1. Aetiology, clinical features and treatment of conjunctival infections, allergies, pterygium, xerosis and trachoma.

2. Aetiology, clinical features, complications and treatment of corneal ulcers, keratomalacia and other scleral and corneal inflammations.

3. Basic principles of keratoplasty, eye donation and corneal blindness.

4. Aetiopathogenesis and complications of ectropion, entropion, ptosis, lagophthalmos, symblepharon and lid inflammations.

5. Aetiology, clinical features and treatment of lacrimal sac infections and causes of epiphora.

6. Classification, clinical features, diagnosis and treatment of various forms of cataract.

7. Classification, aetiology, clinical features, complications and management of various forms of uveitis.

8. Classification, aetiology, clinical features and management of various glaucomas.

9. Differential diagnosis of 'Red eye'.

10. Classification, clinical features and treatment of various refractive errors and presbyopia.

11. Types of ocular trauma, clinical features, complications and management including sympathetic ophthalmia.

12. Aetiology, clinical features and management of optic nerve disorders including differentiation of papilloedema and optic neuritis.

13. Aetiology, clinical features, and management of orbital diseases; common causes of proptosis.

14. Ocular manifestation of systemic diseases including diabetes, hypertension, tuberculosis, leprosy, anaemia, and pregnancy-induced hypertension.

15. Types of blindness and their causes.

16. Ocular side effects of systemic drugs.

17. Objectives of National Programmes of Prevention and Control of Blindness and Trachoma Control Programme.

18. Aetiology, clinical features and treatment of common retinal disorders including vascular occlusions, inflammation and detachment.

19. Aetiology, clinical features and principles of treatment of vitreous diseases e.g. haemorrhage, degeneration, liquefaction, endophthalmitis.

20. Differentiate senile cataract and Open Angle Glaucoma.

21. Ocular manifestations of common neurological disorders.

22. Aetiology, symptoms, diagnosis and principles of treatment of strabismus.

23. Recent advances in ophthalmology - types and scope of lasers, intraocular lens implantation.

SKILLS

1. Determine visual acuity.

2. Determine field of vision.

3. Test colour vision.
4. Take conjunctival swab.
5. Use of ophthalmoscope.
6. Examine anterior segment of eye.
7. Remove extraocular foreign body.
8. Perform epilation of cilia.
9. Incise and drain lid abscess.
10. Distant direct ophthalmoscopy for diagnosis of cataract.

EVALUATION

Theory written - one paper (should contain one question of 10 marks on pre-clinical and para - clinical aspects)	40 marks
Internal assessment (Theory)	10 marks
Total for Theory	50 marks
Clinical	30 marks
Oral (Viva - voce)	10 marks
Internal assessment (Clinical)	10 marks
Total for clinical + viva	50 marks
Grand total for Ophthalmology	100 marks

GUIDELINES FOR CLINICAL & VIVA

1. In all the subjects of III MBBS Part I the No. of candidates examined per day shall not normally exceed 30.
2. There shall be 2 examiners to conduct the clinical and Viva examinations for the whole batch.
3. Clinical Exam: 1 Short case - 15 minutes - 15 marks
   3 Spotters - 15 minutes - 15 marks
   Total 30 marks
4. Viva: The two examiners shall examine separately on different portions of the syllabus.

MARKS QUALIFYING FOR A PASS

Theory written	- 20/40
Theory written + I.A. (Theory)	- 25/50
University clinical	- 15/30
Clinical + Viva + I.A. (clinical)	- 25/50
Total in Ophthalmology	- 50/100

OTORHINOLARYNGOLOGY

Departmental Objectives:

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

Diagnose and manage the common ENT diseases and emergencies.

Adopt the rational use of commonly used drugs, keeping in mind their adverse reactions.

Suggest common investigative procedures and interpret their results.

COURSE CONTENTS

I. Ear

1. Bacterial flora, specific antibiotic therapy of upper respiratory infection.
2. Surgical anatomy: external, middle and inner ear.
3. Physiology of hearing and vestibular function.
4. Examination of the Ear: Tuning fork tests; hearing assess ment in children - broad outline; referred pain in the ear.
5. Deafness : types and causes
6. Diseases of the external ear: perichondritis; otitis externa; cerumen; foreign body.
7. Diseases of the middle ear: acute and chronic suppurative otitis media; Otosclerosis; Cholesteatoma.
8. Audiometry - pure tone; functional examination of inner ear, vestibule, caloric test, positional nystagmus test.
9. Deaf mutism.
10. Meniere's disease
11. Complications of otitis media: Mastoiditis (acute and chronic); lateral thrombosis; labyrinthitis; otogenic brain abscess; mastoidectomy - Principles.

II. NOSE AND PARANASAL SINUSES

1. Surgical anatomy and physiology of the nose and paranasal sinuses.
2. Symptoms of nasal diseases.
3. Methods of examination of the nose and paranasal sinuses.
4. Diseases of the nasal septum: deviation of nasal septum and principles of management; polyp of the septum.
5. Epistasix and foreign bodies in nose.
6. Nasal allergy - nasal polyposis.
7. Inflammation of the nose: furunculosis of vestibule of the nose, acute rhinitis.
8. Inflammatory diseases of paranasal sinuses: acute and chronic maxillary sinusitis, frontal sinusitis.
9. Atrophic rhinitis, rhinosporidiosis, rhinoscleroma.
10. Outline of management of benign and malignant tumors of nose and paranasal sinuses.

III. PHARYNX

1. Anatomy of the pharynx - methods of examination.
2. Diseases of the pharynx : adenoids; acute and chronic pharyngitis; diphtheric pharyngitis; acute follicular tonsillitis

and differential diagnosis; chronic tonsillitis; tonsillectomy - indication; peritonsillar abscess; retropharyngeal abscess.

3. Broad outline of management of juvenile angiofibroma, and malignant tumors of oropharynx.

IV. LARYNX

1. Anatomy and functions of the larynx and methods of examination.

2. Hoarseness of voice; stridor; differential diagnosis of respiratory obstruction and its management.

3. Inflammatory lesions of the larynx: acute laryngitis.

4. Vocal cord nodules; laryngeal diphtheria; tuberculosis of the larynx and differential diagnosis.

5. Benign and malignant tumors of larynx : classification.

SKILLS

1. Be able to use auroscope, nasal speculum, tongue depressor, tuning fork and head mirror.

2. Conduct CPR (Cardiopulmonary resuscitation) and first aid in newborns, children and adults including endotracheal intubation.

3. Maintain airway (endotracheal intubation / tracheostomy / cricothyroidostomy).

4. Perform syringing of ear.

5. Do nasal packing for epistaxis.

EVALUATION

Theory written - one paper (should contain one question of 10 marks on pre-clinical and para - clinical aspects)	40 marks
Internal assessment (Theory)	10 marks
Total for Theory	50 marks
Clinical	30 marks
Oral (Viva - voce)	10 marks
Internal assessment (Clinical)	10 marks
Total for Clinical + Viva	50 marks
Grand total for Otorhinolaryngology	100 marks

GUIDELINES FOR CLINICAL & VIVA

1. In all the subjects of III MBBS Part I the No. of candidates examined per day shall not normally exceed 30.

2. There shall be 2 examiners to conduct the clinical and Viva examinations for the whole batch.

3. Clinical Exam: 1 Short case - 15 minutes - 15 marks
   3 Spotters - 15 minutes - 15 marks
   Total 30 marks

4. Viva: The two examiners shall examine separately on different portions of the syllabus.

MARKS QUALIFYING FOR A PASS

Theory written	—	20/40
Theory written + I.A. (Theory)	—	25/50
University clinical	—	15/30
Clinical + Viva + I.A. (clinical)	—	25/50
Total in Otorhinolaryngology	—	50/100

COMMUNITY MEDICINE

Departmental Objectives:

Aim of teaching by the department is directed towards achievement of the goal of "Health for All". Towards this end, by the completion of his training, the M.B.B.S. student should be:

Aware of the physical, social, psychological, economic and environmental aspect of health and disease.

Able to apply the clinical skills to recognise and manage common health problems including their physical, emotional and social aspects at the individual and family levels and deal with medical emergencies at the community level.

Able to define and manage the health problems of the community he / she serves. To achieve this, he / she shall learn to:

a. Organise elementary epidemiological studies to assess the health problems in the area. For this he should be able to design a study, collect data, analyse it with statistical tests, make a report and be able to participate in a health information system.

b. Prioritise 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 programme. He should be able to assess and allocate resources, implement and evaluate the programmes.

c. Demonstrate knowledge of principles of organising prevention and control of communicable and non-communicable diseases.

d. Organise health care services for special groups like mothers, infants, under-five children and school children.

e. Organise health care in case of calamities.

Able to work as an effective member of the health team.

Able to coordinate with and supervise other members of the health team and maintain liaison with other agencies.

Able to plan and implement health education programmes.

Able to perform administrative functions of health centres.

Able to promote community participation especially in areas of disease control, health education and implementation of national programmes.

Aware of the national priorities and the goals to be achieved to implement primary health care.

COURSE CONTENTS

I. Concepts in Health

1. Definition of health; appreciation of health as a relative concept; determinants of health.
2. Characteristics of agent, host and environmental factors in health and disease and the multifactorial aetiology of disease.
3. Various levels of prevention with appropriate examples.
4. Indices used in measurement of health.
5. Health situation in India: demography, mortality and morbidity profile and the existing facilities in health services.
6. Difficulties in measurement of health.

II. EPIDEMIOLOGY

1. Use of basic epidemiological tools to make a community diagnosis of the health situation in order to formulate appropriate intervention measures.
2. Epidemiology: definition, concept and role in health and disease.
3. Definition of the terms used in describing disease, transmission and control.

4. Natural history of a disease and its application in planning intervention.
5. Modes of transmission and measures for prevention and control of communicable and non-communicable diseases.
6. Principal sources of epidemiological data.
7. Definition, calculation and interpretation of the measures of frequency of diseases and mortality.
8. Common sampling techniques, simple statistical methods for the analysis, interpretation and presentation of data, frequency distribution, measures of central tendency, measures of variability.
9. Need and uses of screening tests.
10. Accuracy and clinical value of diagnostic and screening tests (sensitivity, specificity, predictive values).
11. Planning, collecting, analysing and interpreting data to reach a community diagnosis. Planning an intervention programme with community participation based on the community diagnosis.
12. Epidemiology of communicable and non-communicable diseases of public health importance and their control.
13. Epidemiological basis of national health programmes.
14. Awareness of programmes for control of non-communicable diseases.

15. a. Planning and investigation of an epidemic of a communicable disease in a community setting.

    b. Institution of control measures and evaluation of the effectiveness of these measures.

16. Various types of epidemiological study designs.

17. Application of computers in epidemiology.

III. BIOSTATISTICS

1. a. The scope and uses of biostatistics.

   b. Collection, classification and presentation of statistical data.

   c. Analysis and interpretation of data.

2. Obtaining information, computing indices (rates and ratio) and making comparisons.

3. Apply statistical methods in designing of studies.

   a. Choosing of appropriate controls.

   b. Applying test of significance.

   c. Use of statistical tables.

IV. ENTOMOLOGY

1. Role of vectors in the causation of diseases.

2. Steps of management of a case of insecticide toxicity.

3. Identifying features of and mode of transmission of vector borne diseases.

4. Methods of vector control with advantages and limitations of each.

5. Mode of action, dose and application cycle of commonly used insecticides.

V. ENVIRONMENTAL SANITATION

1. a. Concept of safe and wholesome water.

   b. Requirement of sanitary sources of water.

   c. Methods of purification of water with stress on chlorination of water-large scale and small scale purification.

   d. Various biological standards.

2. Physical, chemical standards; tests for assessing quality of water.

3. Disposal of solid waste and liquid waste both in the context of urban and rural conditions in the country.

4. Problems in the disposal of refuse, sullage and sewage.

5. Concepts of safe disposal of human and animal excreta.

6. a. Sources, health hazards and control of environmental pollution.

b. Influence of physical factors - like heat, humidity, cold, radiation and noise - on the health of the individual and community.

c. Standards of housing and the effect of poor housing on health.

VI. NUTRITION

1. Common sources of various nutrients and special nutritional requirement according to age, sex, activity, physiological condition.

2. Nutritional assessment of individual, family and the community by selecting and using appropriate methods such as : anthropometry, clinical, dietary, laboratory techniques.

3. Compare recommended allowances of individuals and families with actual intake.

4. Plan and recommend a suitable diet for the individuals and families bearing in mind local availability of foods, economic status etc.

5. Common nutritional disorders: protein energy malnutrition, Vit.A. def., anaemia, iodine deficiency disease, fluorosis, food toxins diseases and their control and management.

6. National programmes in nutrition.

VII. GENETICS AND COMMUNITY HEALTH

1. Basic principles of genetics.

2. Chromosomal disorders.

3. Genetic predisposition in common disorders.

4. Advances in molecular genetics.

5. Preventive and social measures - Eugenics & Euthenics, genetic counselling.

6. Early diagnosis, treatment and rehabilitation.

VIII. SOCIOLOGY AND COMMUNITY HEALTH

1. Conduction of a clinico-social evaluation of the individual in relation to social, economic and cultural aspects; educational and residential background; attitude to health, disease and to health services; the individual's family and community.

2. Assessment of barriers to good health, to recovery from sickness and to leading a socially and economically productive life.

3. Development of a good doctor - patient relationship.

4. Identification of social factors related to health and disease in the context of urban and rural societies.

5. Impact of urbanisation on health and disease.

IX. HEALTH EDUCATION

1. Effective communication with individuals, family and community using tools and techniques of information, education and communication.

   a. Barriers to effective communication.

   b. Principles, methods and evaluation of health education.

   c. Methods of health education-their advantages and disadvantages.

   d. Selection and use of appropriate media (simple audio-visual aids) for effective health education.

2. Use of all opportunities for health education of the individual, family and the community.

X. EPIDEMIOLOGY OF SPECIFIC DISEASES

The specific objectives of selected communicable diseases of public health importance for which National Disease Control / Eradication Programmes have been formulated are described here. For other diseases, the individual teacher would formulate the objectives while drawing the lesson plans. The idea of formulating objectives for a few diseases is to highlight their importance and to emphasise certain learning outcomes.

Poliomyelitis, Infective hepatitis, ARI, Tuberculosis, Leprosy, Malaria, Filariasis, Kala Azar, STDs & AIDS, Diarrhoeal

diseases, Hypertension, Coronary heart disease, Blindness, Mental Health.

1. Extent of the problem, epidemiology and natural history of the disease.

2. Relative public health importance of a particular disease in a given area.

3. Influence of social, cultural and ecological factors on the epidemiology of the disease.

4. Control of communicable and non-communicable disease.

   a. Diagnosing and treating a case and in doing so demonstrate skills in:

   i. Clinical methods,

   ii. Use of essential laboratory techniques,

   iii. Selection of appropriate treatment regimes,

   iv. Follow - up of cases.

   b. Principles of planning, implementing and evaluating control measures for the diseases at the community level bearing in mind the relative importance of the disease.

5. Institution of programmes for the education of individuals and communities.

6. Investigating a disease epidemic.

7. Principles of measures to control a disease epidemic.

8. Level of awareness of causation and prevention of disease amongst individuals and communities.

9. Control of communicable and non-communicable diseases by diagnosing and treating a case and in doing so demonstrate skills in:

   i. Instituting measures, whereever necessary, for preventing disabilities / deformities.

   ii. Rehabilitation of the patient.

10. Training of health workers in (i) disease surveillance, (ii) control and treatment, (iii) health education.

11. Managerial skills in the areas of (i) supervision, (ii) collection and compilation of data (iii) maintenance of records, (iv) transmission of data.

XI. DEMOGRAPHY & FAMILY PLANNING

1. Definition of demography and family welfare programme.

2. Stages of the demographic cycle and their impact on the population.

3. Definition, calculation and interpretation of demographic indices like birth rate, death rate, growth rate, fertility rates.

4. Reasons for rapid population growth in India.

5. Need for population control measures and the National Population Policy.

6. Different family planning methods and their advantages and shortcomings. Recent advances in contraception.

7. Motivating a couple to select the appropriate family planning method.

8. Medical Termination of Pregnancy Act.

9. Guidance for MTP and infertility services.

10. National Family Welfare Programme.

XII. MATERNAL AND CHILD HEALTH (MCH)

1. Need for specialised services for these groups.

2. Magnitude of morbidity and mortality in these groups in a given area.

3. Local customs and practices during pregnancy, child birth and lactation.

4. Concepts of 'high risk' and 'MCH Package', Child survival and Safe Motherhood, Integrated Child Development Scheme and other existing regional programmes.

5. Under-5: Morbidity, mortality, high risk and care.

6. Monitoring of growth and development and use of Road to Health Chart.

7. Organisation, implementation and evaluation of programmes for mothers and children as per National Programme guidelines; supervising health personnel; maintaining records; performing a nutritional assessment; promoting breast feeding.

XIII. SCHOOL HEALTH

1. Objectives of the School Health Programme.

2. Activities of the Programme like:

   a. Carrying out periodic medical examination of the children and the teachers.

   b. Immunisation of the children in the school.

   c. Health education

   d. Mid-day meals.

3. Participation of the teachers in the school health programme including maintenance of records; defining healthful practices; early detection of abnormalities.

XIV. COMMUNITY GERIATRICS

1. Common diseases of the elderly.

2. Prevention of degenerative diseases - role of exercise, nutrition, life style, etc.

3. Osteoporosis and arthroses - effects of immobility - prevention of contractures and bed sores.

4. Economic and psychosocial needs of the aged.

5. Care of elderly in organised and unorganised sectors.

6. Role of Health Visitor and Social Worker.

7. Social problems in the elderly - Joint family; Day care centre and Day Hospital; Home for the aged - Care giver.

XV. URBAN HEALTH

1. Common health problems (Medical, Social, Environmental, Economic, Psychological) of urban dwellers.

2. Organisation of health services for slum dwellers.

3. Organization of health services in urban areas.

XVI. MENTAL HEALTH

1. Importance of Mental Health.

2. Types of mental illness and causes.

3. Preventive aspects.

4. Mental Health Services.

5. Alcoholism, drug dependence - Epidemiological factors and prevention.

XVII. HEALTH PLANNING AND MANAGEMENT

1. Explain the terms : public health, public health administration, regionalisation, comprehensive medical care, delivery of health care, planning, management, evaluation.

2. Salient features of the National Health Policy:

   (a) provision of medical care; (b) primary health care and Health for All; (c) health manpower development; (d) planned development of health care facilities; (e) encouragement of indigenous systems of medicine; (f) recommendations of Health Committees.

3. Process of health care delivery in India:

   - the health systems and health infrastructure at centre, state and district levels;

   - the inter-relationship between community development block and primary health centre;
   - the organisation, functions and staffing pattern of community health centres, primary health centres and sub-centre;
   - the job descriptions of health supervisor (male and female), health workers, village health guide, anganwadi workers, traditional birth attendants;
   - the activities of the health team at the primary health centre.

4. Management techniques : define and explain principles of management; explain the three broad functions of management (planning, implementation and evaluation) and how they relate to each other.

5. Appreciate the need for International Health Regulations and Disease surveillance.

6. Constitutional provisions for health in India: Enumerate the three major divisions of responsibilities and functions (concerning health) of the union and the state governments.

7. Appreciate the role of national and international voluntary agencies in health care delivery.

8. Explain the terms: cost - effectiveness, cost - benefit.

XVIII. OCCUPATIONAL HEALTH

1. Relate the history of symptoms with the specific occupation including agriculture.
2. Employees State Insurance Scheme.
3. Identification of the physical, chemical and biological hazards to which workers are exposed while working in a specific occupational environment.
4. Diagnostic criteria of various occupational diseases.
5. Preventive measures against these diseases including accident prevention.
6. Various legislations in relation to occupational health.

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. Recognise 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 Topics

1. Communication

The student should be able to communicate effectively with family members at home; patients at clinics or at homes; individuals, family or a group for health education; 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 samples for microbiological evaluation; chlorination of water; estimate the chlorine demand of water; estimate the residual chlorine of water; insecticides: their proper storage and use in control of vectors.

4. Communicable and Non-communicable diseases

a. Eliciting clinico-social history and examining the patient for diagnosis and treatment.

b. Collection of appropriate material for microbiological, pathological or biochemical tests.

c. Fixing, staining and examining smears - peripheral blood smear for malaria and filariasis, sputum for AFB; slit skin smears for leprosy; Hb estimation; urine and stool examination.

d. Assessing the severity and / or classifying dehydration in diarrhoea, upper respiratory tract infection, dog bite, leprosy.

e. Adequate and appropriate treatment and follow-up of leprosy, malaria, filariasis, rabies, upper respiratory tract infections, diarrhoea and dehydration.

f. Advise on the prevention and prophylaxis of common diseases like vaccine preventable diseases, tetanus, malaria, filariasis, rabies, cholera, typhoid, intestinal parasites.

g. Use of proper screening methods in early diagnosis of common diseases.

h. Take necessary steps in / disease outbreak / epidemics / natural disasters - investigation of epidemic, food poisoning; notification; organising medical care following disasters.

5. Maternal and Child Health

a. Antenatal - examination of the mother; application of the risk approach in antenatal care.

b. Intranatal - conducting a normal delivery; early recognition of danger in intranatal period; referral of cases requiring special care.

c. Postnatal - assessment of the mother and new born, advice on appropriate family planning method; promotion of breast feeding; advice on weaning.

d. Assessment of growth and development of the child - use of the 'road to health' card; recording important anthropometric assessments of the child; giving immunisation to the child; identifying high risk infants.

6. Statistics

a. Make proper sample.

b. Apply appropriate tests of significance to make a correct inference.

c. Simple analysis and presentation of data.

7. Nutrition

a. Conducting a diet survey.

b. Community survey and clinical diagnosis of nutritional deficiencies: vitamin A deficiency, iodine deficiency, malnutrition.

c. Making recommendations regarding diet.

8. **Occupational Health.**

   a. Inspection of work sites.

   b. Recommendation in improving work sites.

   c. Medical examination of workers.

9. **Health care of the community**

   a. Ensuring community participation in health care.

   b. Arranging intersectoral coordination where necessary.

   c. Working in liaison with other agencies involved in health care in various National Health Programmes.

10. **Health Management**

   a. Be an effective team leader.

   b. Guide and train workers.

   c. Supervision of workers and programmes.

11. **Family Planning:** Advice on appropriate methods.

12. **Managerial :** Organise antenatal and under-five clinic.

EVALUATION

Theory: There are two question papers. There shall be 2 Sections in each paper in addition to one Section of 30 multiple choice questions.

Paper I shall cover those topics of the syllabus serially numbered from I to IX under course contents.

Paper II shall cover those topics of the syllabus which are serially numbered from X to XVIII under course contents.

Theory written (two papers of 60 marks each)	120 marks
Internal assessment (Theory)	30 marks
Total for Theory	150 marks
Practical	90 marks
Viva - voce	30 marks
Internal assessment (Practical)	30 marks
Total for Practical and viva	150 marks
Grand total for Community Medicine	300 marks

GUIDELINES FOR PRACTICAL EXAMINATION

Practical I: Spotters and specimens	- 5x3 marks	- 15 marks
Epidemiological exercises	- 3x10 marks	- 30 marks
Total		45 marks

Practical II: Clinico social case discussion	- 45 marks
Total for University practical examination	- 90 marks

MARKS QUALIFYING FOR A PASS

Theory written	—	60/120
Theory written + I.A. (Theory)	—	75/150
University Practical	—	45/90
Practical + Viva + I.A. (Practical)	—	75/150
Total in community medicine	=	150/300

Annexure - B. Syllabus for III MBBS Part II

MEDICINE

Departmental Objectives:

At the end of the clinical postings in General Medicine, the medical student should

Be able to evaluate each patient as a person in society and not merely as a collection of organ systems.

Have developed an interest in and care for all types of patients.

Recognise differences between normal and abnormal behaviour.

Be able to discern the hopes and fears of patients which inevitably underlie the symptom complexes and know how to handle these emotions, both in the patient and in others.

Possess sound knowledge of common diseases, their clinical manifestations and natural history.

Elicit a good clinical history and physical findings, elucidate the clinical problems based on these and discuss the differential diagnosis.

Requisition relevant laboratory tests and perform common side lab procedures.

Be familiar with common imaging techniques, their advantages, disadvantages and indications; be aware of radiation hazards and measures to protect therefrom.

Outline the principles of management of various diseases, including the medical and surgical procedures available.

Describe the mode of action of commonly used drugs, their doses, side effects, toxicity, indications, contraindications and drug interactions.

Have an open attitude to the newer developments in medicine to keep abreast of new knowledge.

Diagnose and provide competent initial care to medical emergencies.

Refer medical problems to secondary and tertiary care at appropriate times.

Recognise the problems arising in patients of AIDS.

Have an understanding of the art of medicine involving communication with patients, demonstration of empathy, reassurance, patient education and an understanding of the patient's socio-economic circumstances in relation to management.

Learn to be adaptable to new ideas and new situations where resources may be limited.

Possess knowledge of an perform certain procedures.

Understand the ethical and legal implications of one's medical decisions.

COURSE CONTENTS

I. CLINICAL METHODS IN THE PRACTICE OF MEDICINE

1. Clinical approach to the patient: The art of medicine, doctor-patient relationship, communication skills and doctor's responsibilities.
2. Clinical Approach to disease and care of patient; Diagnostic possibilities based on interpretation of history, physical findings and laboratory investigations and principles of rational management.

II. COMMON SYMPTOMS OF DISEASE

1. Pain: Pathophysiology, clinical types, assessment and management
2. Fever: Pathophysiology of heat regulation, its disturbances, clinical types, clinical assessment and management.
3. Cough, expectoration and haemoptysis.
4. Dyspnoea, tachypnoea, and cyanosis.
5. Common urinary symptoms including dysuria, oliguria, nocturia, polyuria, incontinence and enuresis.

6. Oedema and anasarca.
7. Shock and cardiovascular collapse;
8. Cardiac murmurs: functional and organic; Palpitation.
9. Anorexia, nausea and vomiting.
10. Constipation and diarrhoea.
11. Haematemesis, malena and haematochezia.
12. Jaundice and hepatomegaly.
13. Abdominal swelling and ascites.
14. Weight loss and weight gain.
15. Fainting, syncope and seizures; headache, dizziness and vertigo.
16. Paralysis, movement disorders and disorders of gait.
17. Coma and other disturbances of consciousness.
18. Pallor and bleeding.
19. Enlargement of lymph nodes and spleen.
20. Joint pains and pain in the extremities and back.

III. NUTRITION/EXPOSURE TO PHYSICAL AND CHEMICAL AGENTS

1. Nutrition in clinical medicine and dietary management.
   - i. Nutritional requirements.
   - ii. Protein calorie malnutrition in adults.
   - iii. Obesity.
   - iv. Vitamin deficiency and excess.
2. Fluid and electrolyte balance; acidosis and alkalosis in particular relevance to vomiting, diarrhoea, uraemia and diabetic ketoacidosis.
3. Poisonings: phenobarbitone, organophosphorous compounds, sedative / hypnotic and others common in the locality.
4. Acute and chronic effects of alcohol and their management.
5. Venoms, stings, insect bites: poisonous snakes, insects and scorpions.
6. Disturbances of temperature: heat stroke, heat exhaustion and cold exposure.
7. Drowning, electrocution and radiation hazards.

IV. INFECTIONS

1. Approach to infectious diseases - diagnostic and therapeutic principles.
2. General principles of rational use of antibiotics and other chemotherapy against the following:

   i. Common gram positive infections.

   ii. Common gram negative infections.

   iii. Enteric fever.

   iv. Cholera, gastroenteritis, food poisoning and dysentery.

   v. Influenza and other common viral respiratory infections.

   vi. Rabies.

   vii. Tetanus.

   viii. Herpes simplex and herpes zoster.

   ix. Amoebiasis and worm infestations.

   x. Malaria, filariasis, leishmaniasis.

   xi. Common exanthemata.

   xii. HIV infection and infections in the immunocompromised conditions.

   xiii. Common sexually transmitted diseases.

   xiv Common fungal infections.

   xv. Viral encephalitis.

   xvi. Tuberculosis.

   xvii Leprosy.

   xviii Infectious mononucleosis.

   xix Brucellosis.

V. HAEMATOLOGY

1. Definition, prevalence, aetiological factors, pathophysiology, pathology, recognition, investigations and principles of treatment of:

   i. Anaemias: iron deficiency, megaloblastic and common haemolytic anaemias (thalassemia, sickle cell and acquired haemolytic).

   ii. Common bleeding disorders (thrombocytopenia and haemophilia).

   iii. Agranulocytosis and aplastic anaemia.

2. Leukaemias.

3. Lymphomas.

4. Blood group and transfusion: Major blood group systems and histocompatibility complex, concepts of transfusion and component therapy; indications for transfusion therapy, precautions to be taken during blood transfusion, hazards of transfusion and safe handling of blood and blood products.

VI. RESPIRATORY SYSTEM

1. Physiology and diagnostic methods: Sputum examination, X-ray chest, pulmonary function tests and bronchoscopy.
2. Upper respiratory infections.
3. Pneumonias.
4. Bronchiectasis and lung abscess.
5. Bronchial asthma and tropical eosinophilia.
6. Chronic obstructive airway disease and cor pulmonale.
7. Acute and chronic respiratory failure.
8. Diseases of pleura: pleural effusion, empyema, pneumothorax.
9. Pulmonary tuberculosis.
10. Neoplasms of lung.
11. Common occupational lung diseases.

VII. CARDIOVASCULAR SYSTEM

1. ECG, Xray chest with reference to common cardiovascular diseases.
2. Coronary artery disease.
3. Rheumatic fever and rheumatic heart disease.
4. Infective endocarditis.
5. Hypertension and hypertensive heart disease.
6. Acute and chronic heart failure.
7. Common congenital heart diseases in adolescents and adults: ASD, VSD, PDA, TOF and coarctation of aorta.
8. Common cardiac arrhythmias.
9. Acute and chronic pericarditis, pericardial effusion and cardiac tamponade.
10. Common aortic diseases; peripheral vascular disease: arterial and venous.

VIII. GASTROINTESTINAL TRACT

1. Stool examination, endoscopy and radiology in reference to common gastrointestinal diseases.
2. Acid peptic disease.

3. Malabsorption syndrome.
4. Inflammatory bowel disease and irritable bowel syndrome.
5. Acute and chronic hepatitis.
6. Cirrhosis of liver.
7. Abdominal tuberculosis.

IX. EMERGENCY MEDICINE

1. Cardiopulmonary resuscitation.
2. Acute pulmonary oedema.
3. Hypertensive emergencies.
4. Diabetic ketoacidosis and hypoglycaemia.
5. Status epilepticus.
6. Acute severe bronchial asthma.
7. Shock and anaphylaxis.
8. Acute myocardial infarction.
9. Upper GI bleed and hepatic coma.
10. Diagnosis and management of comatose patient.
11. Management of unknown poisoning.

X. NERVOUS SYSTEM

1. Cerebrovascular diseases.
2. Meningitis : viral, bacterial and tuberculous.
3. Peripheral neuropathy.
4. Epilepsy.
5. Extrapyramidal diseases.
6. Common compressive and noncompressive spinal cord syndromes.
7. Motor system disease.
8. Myasthenia gravis.
9. Common myopathies in India.
10. Degenerative, nutritional and metabolic diseases of the nervous system.

XI. URINARY SYSTEM

1. Acute renal failure.
2. Chronic renal failure.
3. Glomerulonephritides and hephrotic syndrome.
4. Urinary tract infections / pyelonephritis.
5. Tubulointerstitial diseases and toxic nephropathies.

XII. CONNECTIVE TISSUE DISORDERS

1. Rheumatoid arthritis.
2. Degenerative joint disease including cervical spondylosis.
3. Systemic lupus erythematosus, systemic sclerosis and other collagen vascular diseases.
4. Gout.

XIII. ENDOCRINES

1. Diabetes mellitus.
2. Hypo and hyperthyroidism; iodine deficiency disorders.
3. Cushing's syndrome and Addison's disease; Hyperalosteronism
4. Pituitary disorders: Gigantism, Acromegaly and Sheehan's syndrome.
5. Calcium and phosphorus metabolism: parathyroid and metabolic bone disease.

XIV. GERIATRICS

1. Biology of aging; Factors accelerating senescence.
2. Age related changes in various organ systems.

3. Presentation of diseases in the elderly; Identification of common diseases.
4. Diet for the aged; Management of Nutritional disorders.
5. Acute medical problems - infections, dehydration, acute confusional states.
6. Osteoporosis; Degenerative joint diseases; effects of immobility - prevention of contracture and bed sores.
7. Neurological disturbances - management & rehabilitation.
8. Psychogeriatircs - Sensory deprivation; personality changes, depressive illness.
9. Social problems in the elderly - Joint family systsem; Day care centre and Day hospital; Home for the aged.
10. Rehabilitation - Assessment of functional status - Activities of daily living, Instrumental activities of daily living, Role of physiotherapist and Social Worker.

XV. DERMATOLOGY

1. Diseases caused by nutritional and environmental factors.
2. Infective disorders: Pyodermas, Common Viral and Fungal infections.
3. Infestations: Scabies, Pediculosis.

4. Melanocyte, Pigment metabolism and disorders of pigmentation; Icthyosis.

5. Allergic disorders: Urticaria, Atopic dermatitis, and contact dermatitis.

6. Common drug reactions and eruptions: Erythema multiforme, Toxic epidermal necrolysis, and Exfoliative dermatitis.

7. Dermatitis and Eczema.

8. Vesiculobullous Diseases: Pemphigus, Pemphigoid and Dermatitis herpetiformis.

9. Alopecia and Hirsutism.

10. Sebaceous glands: Structure and Function; Acne, Seborrhoeic dermatitis, Other diseases; Pityriasis capitis.

11. Sweat glands: Structure, Function and Diseases; Miliaria, Hyperhidrosis.

12. Leprosy: Classification, Pathology, Clinical features, Diagnosis, Reactions, Management, Deformities and Control Programme.

13. Psoriasis.

14. Lichen Planus.

15. Sexually Transmitted Diseases: Genital ulcerative diseases, Genital discharge diseases.

16. Dermatological therapy.

XVI. PSYCHIATRY

1. Historical aspects of the diagnosis and treatment of mental illness; concept of mental health vs mental illness; classificatory system currently in use in psychiatry.

2. Eliciting a detailed psychiatric history and conducting a mental status examination; defining, eliciting and interpreting psychopathological symptoms and signs.

3. Concepts underlying normal and abnormal human behaviour; principles of learning, memory, personality and intelligence; psychopathology (cf. behavioural sciences).

4. Classification of the different types of psychoses; differences between psychoses and neuroses; difference between functional and organic psychoses.

5. Clinical features, diagnosis and management of: Schizophrenia; Mania and depression; Anxiety disorders and hysteria; Dementia; Alcoholism; Drug abuse.

6. Clinical recognition and initial therapy of psychiatric emergencies.

7. Clinical features, diagnosis and management of psychiatric disorders of childhood and adolescence.

8. Personality disorders.

XVII. RADIODIAGNOSIS

1. Respiratory system: Diagnosis of common conditions like tuberculosis, consolidation, pleural effusion, pneumothorax, lung abscess, collapse, bronchogenic carcinoma and mediastinal masses; Differential diagnosis of mediastinal masses; indications for bronchography, tomography and CT scans.
2. Cardiovascular system: Normal topography of heart, cardiomegaly; Common rheumatic heart diseases and pericardial effusion.
3. Gastrointestinal system: Diagnosis of acute abdominal conditions like intestinal obstruction and perforation; Indications and contraindications for Barium studies; Differential diagnosis of calcification and stones on plain x-ray; Diagnosis of gastric ulcer / duodenal ulcer / cancer stomach / oesophageal cancer on Barium studies.
4. Obstetrics and Gynaecology: Radiation hazards to a pregnant woman and child; ideal time to take x-rays during pregnancy and the number of views to be taken.
5. Skeletal System: Diagnosis of common fractures, caries spine, osteomyelitis, nutritional deficiencies like rickets, common bone tumours and diseases of joints.
6. Central Nervous System: Signs of raised intracranial tension on plain x-ray of skull.

7. Excretory System: Identification of renal calculi; Contrast studies.

SKILLS

1. Obtain a proper relevant history and perform a humane and thorough clinical examination including internal examinations (per - rectal and per - vaginal) and examinations of all organs / systems in adults.
2. Arrive at a logical working diagnosis after clinical examination.
3. Order appropriate investigations keeping in mind their need, relevance and cost effectiveness.
4. Plan and institute a line of treatment which is need based, cost effective and appropriate for common ailments taking into consideration.

   a. Patient,

   b. Disease,

   c. Socio-economic status,

   d. Institutional / governmental guidelines.

5. Recognise situations which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment.

6. Assess and manage fluid/electrolyte and acid-base imbalance.

7. Interpret abnormal biochemical laboratory values of common diseases.

8. Interpret skiagrams of common diseases.

9. Identify irrational prescriptions and explain their irrationality.

10. Interpret serological tests such as VDRL, ASLO, Widal, HIV, Rheumatoid factor, Hepatitis and TORCH infections.

11. Demonstrate empathy and humane approach towards patients, relatives and attendants.

12. Demonstrate interpersonal and communication skills befitting a physician in order to discuss the illness and its outcome with patient and family.

13. Write a complete case record with all necessary details.

14. Write a proper discharge summary with all relevant information.

15. Write a proper referral note to secondary or tertiary centres or to other physicians with all necessary details.

16. Assess the need for and issue proper medical certificates to patients for various purposes.

17. Adopt universal precautions for self protection against HIV and hepatitis and counsel patients.

18. Perform skin sensitivity tests for drugs and serum.

19. Record and interpret an ECG and be able to identify common abnormalities like myocardial infarction and arrhythmias.

20. Start i.v. line and infusion

21. Do venous cutdown.

22. Give intradermal / SC / IM / IV injections.

23. Insert and manage a C.V.P. line.

24. Conduct CPR (Cardiopulmonary resuscitation) and first aid in newborns, children and adults including endotracheal intubation.

25. Pass a nasogastric tube.

26. Pass a stomach tube and do stomach wash.

27. Administer enemas.

28. Do lumbar puncture.

29. Do pleural / peritoneal tap.

30. Aspirate liver abscess.

31. Catheterise bladder in both males and females.

32. Relieve tension pneumothorax by inserting a needle.

33. Administer O_2 by mask, catheter and O_2 tent and be able to handle O_2 cylinder.

34. Insert flatus tube.

35. Provide first aid to patients with peripheral vascular failure and shock.

36. Manage acute anaphylactic shock.

37. Manage diarrhoeas / dysenteries; Assess dehydration, prepare and administer oral rehydration therapy (ORT).

38. Manage emergencies of drowning.

39. Manage common poisoning.

40. Manage acute pulmonary oedema and left ventricular failure.

41. Manage acute severe bronchial asthma.

42. Do emergency management of epilepsy and status epilepticus.

43. Do emergency management of comatose patients regarding airway, positioning, prevention of aspiration and injuries.

44. Manage hyperpyrexia.

45. Perform skin scrapings and do a KOH preparation for fungus infections.

46. Prepare slit skin and nasal smear for lepra bacilli.

47. Do staining for STD Cases.

48. Do psychiatric evaluation and recognise common psychiatric illne sses.

49. Use of questionnaires in psychology.

50. Use of intelligence tests.

EVALUATION

Theory: Two Papers of 80 Marks each (Paper I - General Medicine) Paper II - General Medicine (including Psychiatry, Dermatology, S.T.D., Tuberculosis & Chest Diseases)	160 marks
Internal Assessment (Theory):	40 marks
Total for Theory	200 marks
University Clinical	120 marks
Viva - Voce	40 marks
Internal Assessment (Clinical)	40 marks
Total for Clinical and Viva	200 marks
Grand Total for Medicine	400 marks

GUIDELINES FOR CLINICAL AND VIVA:

In all subjects of III MBBS Part II the number of candidates examined daily in clinical and viva shall not normally exceed 24.

Clinical I	- One long case	-	1 hour	60 marks
Clinical II	- One short case	-	15 min.	30 marks
	Three spotters	-	15 min.	30 marks
			Total	120 marks

There shall be four Examiners working as two pairs to conduct the examination for two batches of students.

Viva Voce I - Slides, Specimens, drugs, instruments, X-rays, etc

Viva Voce II - Charts and Theory.

Two pairs of Examiners shall conduct the Viva examination

MARKS QUALIFYING FOR A PASS

Theory written	—	80/160
Theory written + I.A. (Theory)	—	100/200
University Clinical	—	60/120
Clinical + Viva + I.A. (Clinical)	—	100/200
Total in Medicine	=	200/400

SURGERY

A. GENERAL SURGERY

Departmental Objectives:

At the end of the training the undergraduate student should be able to:

a. Diagnose and appropriately treat common surgical ailments;

b. Identify situations calling for urgent or early surgical intervention and refer at the optimum time to the appropriate centres;

c. Requisition and interpret basic relevant investigations;

d. Provide adequate pre and post - operative and follow-up care of surgical patients;

e. Counsel and guide patients and relatives regarding need, implications and problems of surgery in the individual patient;

f. Develop adequate and right attitude in dealing with surgical problems of patients;

g. Provide emergency resuscitative measures in acute surgical situations including trauma.

h. Organise and conduct relief measures in situations of mass casualties.

i. Effectively participate in the National Health Programmes especially the Family Welfare Programme.

j. Discharge effectively medico-legal and ethical responsibilities.

k. Perform simple routine surgical procedures.

COURSE CONTENTS

I. GENERAL PRINCIPLES

1. Wound Healing and Management; Scars: Hypertrophic scar and keloid; First aid management of severely injured.
2. Asepsis, antisepsis, sterilisation.
3. Surgical sutures, knots, drains, bandages and splints.
4. Surgical infections and rational use of antibiotics: Causes of infection, prevention of infection, common organisms causing infection.
5. Boils, cellulitis, abscess, necrotising fasciitis.
6. Tetanus and Gas gangrene: Prevention and treatment.
7. Chronic specific infections : Tuberculosis, Filariasis, Leprosy.
8. Antibiotic therapy.

9. Hospital infection.
10. AIDS and hepatitis B
11. Mechanisms and management of missile, blast and gunshot injuries.
12. Surgical aspects of diabetes mellitus.
13. Bites and stings.
14. Organ transplantation: Basic Principles.
15. Nutritional support to surgical patients.

II. RESUSCITATION

1. Fluid and Electrolyte balance.
2. Shock: Aetiology, Pathophysiology and Management.
3. Blood Transfusion : Indications and hazards.
4. Common postoperative complications.

III. COMMON SKIN AND SUBCUTANEOUS CONDITIONS

1. Sebaceous cyst, dermoid cyst, lipoma, Haemangioma, Neurofibroma, pre-malignant conditions of the skin, Basal cell carcinoma, squamous cell carcinoma, Naevi and malignant melanoma.

2. Sinus and fistulae.

3. Pressure sores: prevention and management.

IV. ARTERIAL DISORDERS

1. Acute arterial obstruction: diagnosis and initial management; types of gangrene; diagnosis of chronic arterial insufficiency with emphasis on Buerger's disease, atheroselerosis; Investigation in case of arterial obstruction.

2. Amputations, Vascular injuries: Basic principles of management.

V. VENOUS DISORDERS

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

VI. LYMPHATICS AND LYMPH NODES

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

VII. BURNS

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

VIII. SCALP, SKULL AND BRAIN

1. Wounds of scalp and their management; recognition, diagnosis and monitoring of patients with head injury including unconsciousness; Glasgow coma scale; recognition of acute cerebal compression

IX. ORAL CAVITY, JAW, SALIVARY GLANDS

1. Cleft lip and palate; Leukoplakia; retention cysts; ulcers of the tongue.

2. Features, diagnosis and basic principles of management of carcinoma lip, buccal mucósa and tongue, prevention and staging of oral carcinomas.

3. Salivary Glands: Acute sialoadenitis, neoplasms: diagnosis and principles of management.

4. Epulis, cysts and tumors of jaw; maxillofacial injuries; salivary fistulae.

X. NECK

1. Branchial cyst; cystic hygroma.

2. Cervical lymphadenitis: Non specific and specific, tuberculosis of lymphnodes, secondaries in neck.

3. Thoracic outlet syndrome: diagnosis

XI. THYROID GLAND

1. Thyroid: surgical anatomy, physiology, investigations of thyroid disorders; types, clinical features, diagnosis and principles of management of goitre, thyrotoxicosis and malignancies; thyroglossal cyst and fistula.
2. Thyroiditis, Hypothyroidism.

XII. PARATHYROID AND ADRENAL GLANDS

1. Clinical features and diagnosis of hyperparathyroidism, adrenal hyperfunction/hypofunction.

XIII. BREAST

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

XIV. THORAX

1. Recognition and treatment of pneumothorax, haemothorax; pulmonary embolism: prevention/recognition and treatment; flail chest; stove in chest; postoperative pulmonary complications.
2. Principles of management of pyothorax; cancer lung.

XV. HEART AND PERICARDIUM

1. Scope of cardiac surgery.

XVI. OESOPHAGUS

1. Dysphagia: Causes, investigations and principles of management.
2. Cancer oesophagus: principles of management.

XVII. STOMACH AND DUODENUM

1. Anatomy, Physiology; Congenital hypertrophic pyloric stenosis; Aetiopathogenesis, diagnosis and management of: peptic ulcer, cancer stomach; upper gastrointestinal haemorrhage with special reference to bleeding varices and duodenal ulcer.

XVIII. LIVER

1. Clinical features, diagnosis and principles of management of: Amoebic liver abscess, hydatid cyst and portal hypertension.
2. Surgical anatomy; primary and secondary neoplasms of liver.

XIX. SPLEEN

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

XX. GALL BLADDER AND BILE DUCTS

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

XXI. PANCREAS

1. Acute pancreatitis: clinical features, diagnosis, complications and management.
2. Chronic pancreatitis, cancer pancreas.

XXII. PERITONEUM, OMENTUM, MESENTERY AND RETROPERITONEAL SPACE

1. Peritonitis: causes, recognition and principles of management intraperitoneal abscesses.
2. Laparoscopy.

XXIII. SMALL AND LARGE INTESTINES

1. Diagnosis and principles of treatment of : Intestinal amoebiasis, tuberculosis of intestine, carcinoma colon; lower gastrointestinal haemorrhage.
2. Ulcerative colitis, Premalignant conditions of large bowel.

3. Intestinal Obstruction: Types, aetiology, diagnosis and principles of management; paralytic ileus.
4. Acute Abdomen: Causes, approach, diagnosis and principles of management.
5. Appendix: Diagnosis and management of acute appendicitis, appendicular lump and abscess.

XXIV. RECTUM

1. Carcinoma of rectum: diagnosis, clinical features and principles of management: indications and management of colostomy.
2. Prolapse of rectum.

XXV. ANAL CANAL

1. Surgical anatomy. Clinical features and management of: fissure, fistula in ano, perianal and ischiorectal abscess and haemorrhoids; Diagnosis and referral of anorectal anomalies.
2. Anal carcinoma.

XXVI. HERNIAS

1. Clinical features, diagnosis, complications and principles of management of : umblical, inguinal and femoral hernia.
2. Epigastric hernia; omphalitis; umbilical fistulae; burst abdomen and ventral hernia.

XXVII. GENITO-URINARY SYSTEM

1. Symptoms and Investigations of the urinary tract.
2. Investigation of renal mass; diagnosis and principles of management of urolithiasis, hydronephrosis, pyonephrosis, perinephric abscess and renal tumours.
3. Renal tuberculosis.
4. Causes, diagnosis and Principles of management of haematuria, anuria and acute retention of urine.
5. Benign prostatic hyper plasia; diagnosis and management; carcinoma prostate.
6. Diagnosis and principles of management of Phimosis, paraphimosis and carcinoma penis.
7. Principles of management of urethral injuries.
8. Diagnosis and principles of treatment of undescended testis, torsion testis, hydrocoele, haematocoele, pyocoele, epididymoorchitis and testicular tumours.
9. Varicocele.

SKILLS

1. Obtain a proper relevant history and perform a humane and thorough clinical examination including internal examinations

(per-rectal and per-vaginal) and examinations of all organs / systems in adults and children.

2. Arrive at a logical working diagnosis after clinical examination.
3. Order appropriate investigations keeping in mind their relevance (need based) and cost effectiveness.
4. Plan and institute a line of treatment which is need based, cost effective and appropriate for common ailments taking into consideration:
   a. Patient;
   b. Disease;
   c. Socio-economic status;
   d. Institutional / governmental guidelines.
5. Recognise situations which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment.
6. Demonstrate empathy and humane approach towards patients, relatives and attendants.
7. Develop a proper attitude towards patients, colleagues and other staff.

8. Demonstrate interpersonal and communication skills befitting a surgeon in order to discuss the illness and its outcome with patient and family.

9. Establish rapport and talk to patients, relatives and community regarding all aspects of medical care and disease.

10. Write a complete case record with all necessary details.

11. Write a proper discharge summary with all relevant information.

12. Write a proper referral note to secondary or tertiary centres or to other surgeons with all necessary details.

13. Assess the need for and issue proper medical certificates to patients for various purposes.

14. Maintain an ethical behaviour in all aspects of medical practice

15. Appreciate patients' right to privacy.

16. Obtain informed consent for any examination/procedure.

17. Be able to do surface marking of common superficial arteries, veins, nerves and viscera.

18. Assess and manage fluid / electrolyte and acid base imbalance.

19. Adopt universal precautions for self protection against HIV and hepatitis and counsel patients.

20. Start i.v. line and infusion in adults, children and neonates.

21. Do venous cutdown.

22. Give intradermal / SC / IM / IV injection.

23. Insert and manage a C.V.P. line.

24. Conduct CPR (Cardiopulmonary resuscitation) and first aid in newborns, children and adults including endotracheal intubation.

25. Pass a nasogastric tube.

26. Pass a stomach tube and do stomach wash.

27. Perform vasectomy.

28. Perform circumcision,

29. Perform reduction of paraphimosis.

30. Do Proctoscopy.

31. Do injection and banding of piles.

32. Incise and drain superficial abscesses; do dressing.

33. Manage superficial wounds and do suturing of superficial wounds & wound toilet.

34. Remove small cutaneous / subcutaneous swellings.

35. Control external haemorrhage.

36. Catheterise bladder in both males and females.

37. Perform nerve blocks like infiltration, digital, pudendal, paracervical and field block.

38. Relieve tension pneumothorax by inserting a needle.

39. Insert flatus tube.

40. Provide first aid to patients with peripheral vascular failure and shock.

41. Assess degree of burns and administer emergency management.

B. ORTHOPAEDICS

Departmental Objectives:-

At the end of the training the student should be able to:

Describe the aetiology, pathophysiology, principles of diagnosis and management of common orthopaedic problems including emergencies.

COURSE CONTENTS

1. TRAUMA

1. General principles in diagnosis, first aid and treatment methods of closed fractures and open fractures, open reduction including principles of internal fixation and external fixation, their complications. Preservation of amputated parts before transfer.

2. General principles of diagnosis and management of non-unions and delayed unions.

II. DIAGNOSIS, FIRST AID AND REFERRAL OF

1. Fracture clavicle.

2. Anterior dislocation of shoulder.

3. Fracture proximal end, shaft, supracondylar, and internal condylar humerus.

4. Posterior dislocation of elbow.
5. Fracture shaft of radius and ulna.
6. Fracture of distal radius.
7. Traumatic dislocation of hip.
8. Fracture femur neck, trochanter and shaft.
9. Fracture patella.
10. Fracture shaft tibia and fibula.
11. Haemarthrosis, traumatic synovitis.
12. Injury to muscles and ligaments (shoulder arc syndrome, tennis elbow, ankle sprain).
13. General principles of management of hand injuries.
14. Peripheral nerve injuries.
15. Spinal injuries.
16. Fracture of olecranon.
17. Monteggia fracture dislocation.
18. Polytrauma.
19. Complications of fracture: Fat embolism, Ischaemic contracture, myositis ossificans, osteodystrophy.

III. INFECTIONS OF BONES AND JOINTS

Diagnosis and Principles of Management

1. Osteomyelitis: pyogenic, tubercular, fungal (Madurafoot), syphilitic and parasitic infection of bone.
2. Arthritis: septic and tubercular.
3. Tuberculosis of the spine.
4. Leprosy - principles of corrective surgery.

IV. TUMOURS

Diagnosis and Principles of Management

1. Benign lesions : Multiple exostosis, Enchondroma, Osteoid osteoma, Simple bone cyst, Osteochondroma.
2. Malignant lesions: Osteosarcoma, Ewing's sarcoma, Giant cell tumor, Chondrosarcoma and Secondary deposits.

V. DEGENERATIVE DISEASES

Diagnosis and Principles of Management

1. Osteoarthritis.
2. Spondylosis.
3. Degenerative disc diseases.

VI. CONGENITAL ANOMALIES

Diagnosis and Principles of Management

1. Congenital dislocation hip.
2. Congenital talipes equinovarus.
3. Pes Planus.

VII. BONE DYSPLASIA

Diagnosis and Principles of Management

1. Osteogenesis imperfecta.
2. Achondroplasia.

VIII. NEURO-MUSCULAR DISORDERS

Diagnosis and Principles of Management

1. Post-polio residual Paralysis.
2. Cerebral palsy.

IX. OSTEOCHONDROSES

Diagnosis and Principles of Management

1. Perthe's disease

X. DEFORMITIES

1. Scoliosis - diagnosis and referral.
2. Genu Varum and Valgum - diagnosis.

XI. PREVENTIVE ORTHOPAEDICS

XII. BASIC PRINCIPLES OF PHYSIOTHERAPY OCCUPATIONAL THERAPY AND ORTHOTICS / PROSTHETICS

1. Physiatric evaluation of common neurological diseases.
2. Physiatric evaluation of common orthopaedic conditions.
3. Principles of Exercise therapy, Electrotherapy and Occupational therapy.
4. Principles of Orthotics and Prosthetics.
5. Principles of Cardiopulmonary Rehabilitation.

SKILLS

1. Obtain a proper relevant history, and perform a humane and thorough clinical examination in adults and children including neonates.
2. Arrive at a logical working diagnosis after examination.

3. Plan and institute a line of treatment which is need based, cost effective and appropriate for common ailments.

4. Recognise situations which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment.

5. Be able to do surface marking of common superficial arteries, veins, nerves and viscera.

6. Interpret skiagrams of common fractures and dislocations.

7. Apply skin traction.

8. Apply figure of 8 bandage for fracture clavicle.

9. Apply POP slabs/casts and splints.

10. Transport safely victims of accidents including those with spinal injury.

11. Reduce Colle's fracture.

12. Reduce shoulder dislocation.

13. Reduce tempero-mandibular joint dislocation.

14. Perform nerve blocks like infiltration, digital, pudendal, paracervical and field block.

C. RADIOTHERAPY

Departmental Objectives:

At the end of the training in Radiotherapy the student should be able to:

Exhibit awareness of the principles of radiotherapy, the radio-responsiveness of various tumours and management of common cancers like cervical, breast and oral cancers.

Refer for further consultation at appropriate time without delay.

State general complications of irradiation and their management.

List common chemotherapeutic drugs for cancer and their toxicity.

Implement health education programmes regarding prevention and early diagnosis of tobacco related cancers, cervical cancers and breast cancers.

Know the general outlines of use of radio-isotopes in diagnosis and therapy.

COURSE CONTENTS

1. Physical principles of radiotherapy.
2. Principles of cancer chemotherapy.
3. Prevention of cancer.
4. Early diagnosis of cancer.
5. Principles of nuclear medicine.
6. Radio-responsiveness of various tumours.
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. ANAESTHESIOLOGY

Departmental Objectives;

At the end of the training the student should be able to:

Perform cardio-pulmonary resuscitation with the available resources and transfer the patient to a bigger hospital for advanced life support.

Set up intravenous infusion.

Clear and maintain airway in an unconscious patient.

Administer oxygen correctly

Perform simple nerve block.

Exhibit awareness of the principles of administration of general and local anaesthetics.

COURSE CONTENTS

1. Cardiopulmonary resuscitation (CPR) - basic and advanced, including use of simple ventilators.
2. Anatomy of upper airway; sites of respiratory obstruction and management of airway in an unconscious patient.
3. Various methods of oxygen therapy and its indications.
4. The pharmacology of local anaesthetics, their use and how to perform simple nerve blocks like,

- Infiltration anaesthesia
- Digital block
- Ankle block
- Pudendal and paracervical blocks.

5. Management of complication of regional anaesthesia.
6. The principles of administration of general anaesthetics.

SKILLS

1. Start i.v. line and infusion in adults, children and neonates.
2. Do venous cutdown.
3. Insert and manage a C.V.P. line.
4. Conduct CPR (Cardiopulmonary resuscitation) and first aid in newborns, children and adults including endotracheal intubation.
5. Do lumbar puncture.
6. Perform nerve blocks like infiltration, digital, pudendal, paracervical and field block.
7. Administer O_2 by mask, catheter and O_2 tent and be able to handle O_2 cylinder.

EVALUATION

Theory: Two papers of 80 Marks each		160 marks
(Paper I - Section A - General Surgery Section B - Orthopaedics		
Paper II - Section A - General Surgery Section B - Anaesthesiology, Dentistry & Radiology)		
Internal Assessment (Theory): Gen.Surg.	30	40 marks
Ortho	10	
Total for Theory		200 marks
University Clinical:- Gen. Surg. - Ortho		
90 + 30		120 marks
Viva - voce 30 + 10		40 marks
Internal Assessment (Clinical):		
30 + 10		40 marks
Total for Clinical and viva		200 marks
Grand total for Surgery		400 marks

GUIDELINES FOR CLINICAL AND VIVA

In all subjects of III M.B.B.S. Part II the number of candidates examined daily in clinical and viva shall not normally exceed 24.

There shall be two pairs of Examiners for General Surgery and one pair for Orthopaedics.

CLINICAL

Candidates shall be divided into three batches. Each candidate shall be examined by all the sets of Examiners by rotation.

Clinical I (General Surgery)		
	One long case - 1 hour	50 marks
Clinical II -	One short case - 15 min.	25 marks
	Two spotters - 15 min.	15 marks
	Total	90 marks
Clinical III - Orthopaedics		
	One short case - 15 min.	20 marks
	Two spotters - 15 min	10 marks
	Total	30 marks
Total for Clinical Examn. in surgery		120 marks

Viva shall be conducted by three pairs of Examiners by rotation for each candidate.

MARKS QUALIFYING FOR A PASS

Theory written	—	80/160
Theory written + I.A. (Theory)	—	100/200
University Clinical	—	60/120
Clinical + Viva + I.A. (Clinical)	—	100/200
Total in Surgery	=	200/400

OBSTETRICS AND GYNAECOLOGY

Departmental Objectives:

At the end of the training in Obstetrics and Gynaecology the M.B.B.S. student should be able to:

Appreciate the socio-cultural, economic and demographic factors that influence the practice of Obstetrics and Gynaecology.

Appreciate the principles of reproductive anatomy and physiology.

Understand the preconception, antenatal, intranatal and postnatal factors including drugs that affect the mother and foetus.

Recognise the changes and adaptation that occur in the mother during pregnancy, labour and puerperium.

Impart antenatal care, detect deviations from normal pregnancy and refer risk cases appropriately.

Manage normal labour, recognise the factors that may lead to complications and refer such cases appropriately.

Institute primary treatment in Obstetric and Gynaecological emergencies.

Resuscitate and take adequate care of the newborn.

Assist couples with infertility and those requiring contraception.

Know the aetiopathology and management of menstrual abnormalities.

Know about the benign and malignant tumors of the genital tract and appreciate the need for screening and prevention.

Recognise the importance of infections and other diseases of the genital tract and give appropriate treatment.

Know about the displacements of genital tract and injuries.

Understand the implications of medicolegal and ethical issues concerning the speciality.

Acquire communication, decision making and managerial skills.

Acquire skills to perform Obstetrical and Gynaecological examinations and certain minor investigations and therapeutic operative procedures.

COURSE CONTENTS

A. OBSTETRICS

BROAD PERSPECTIVES

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

II. ANATOMY OF THE FEMALE REPRODUCTIVE TRACT

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

III. PHYSIOLOGY OF CONCEPTION

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

IV. DEVELOPMENT OF FOETUS AND PLACENTA

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

V. DIAGNOSIS OF PREGNANCY

1. Clinical features; differential diagnosis; principles underlying the pregnancy tests.
2. Immunological tests and their interpretation; ultrasonogram.

VI. MATERNAL CHANGES IN PREGNANCY

1. Genital tract, cardiovascular system and haematology.
2. Respiratory and gastrointestinal system.

VII. ANTENATAL CARE

1. Objectives of antenatal care; assessment of period of gestation; detect abnormality with the help of gravidogram; clinical monitoring of maternal and foetal well-being; detect 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.

VIII. COMPLICATIONS OF EARLY PREGNANCY

1. Abortions : Definition, Types, Causes; Management of incomplete, inevitable abortion.
2. Ectopic Pregnancy: Clinical features; differential diagnosis of acute abdomen; principles of surgical management; Causes and conservative management of ectopic pregnancy.
3. Hyperemesis Gravidarum: Aetiopathology; Impact on maternal and foetal health; principles of management.
4. Gestational Trophoblastic Tumours: Clinical features; differential diagnosis; principles of management; follow up; Laboratory investigations and ultrasonography.

IX. ANTEPARTUM HAEMORRHAGE

1. Classification; clinical features; differential diagnosis; principles of management.
2. Aetiopathology; ultrasonography; complications and management.

X. ABNORMAL PRESENTATIONS AND CONTRACTED PELVIS

1. Causes, salient features; principles of management of occipito-posterior, face and brow presentation;
2. Obstructed labour: definition, clinical features, prevention; mechanism of breech delivery.

XI. MULTIPLE PREGNANCIES

1. Clinical features; diagnosis and complications; principles of management; investigations.
2. Causes; management.

XII. PREGNANCY - INDUCED HYPERTENSION

1. Definition; early detection; investigations; principles of management of pregnancy - induced hypertension and eclampsia.
2. Aetiopathology; differential diagnosis of convulsions in pregnancy; complications of eclampsia.

XIII. ANAEMIA IN PREGNANCY

1. Aetiology; classification; diagnosis ; investigations; adverse effects on the mother and foetus; management during pregnancy and labour.

XIV. OTHER MEDICAL DISORDERS LIKE HEART DISEASE/ DIABETES MELLITUS AND URINARY TRACT INFECTION

1. Clinical features; early detection; effect of pregnancy on the disease and impact of the disease on pregnancy.
2. Complications of the diseases.

XV. NORMAL LABOUR

1. Physiology ; mechanism in occipito-anterior presentation;
2. Monitoring - Partogram; conduct of labour; pain relief.

XVI. MANAGEMENT OF THIRD STAGE OF LABOUR

1. Complications: predisposing factors; prevention; management of atonic post partum haemorrhage.

2. Management of injuries to the lower genital tract.

XVII. UTERINE DYSFUNCTION

1. Classification; recognition of uterine dysfunction; principles of induction and acceleration of labour.

XVIII. FOETAL DISTRESS AND FOETAL DEATH

1. Clinical features; causes; diagnosis; principles of management; prevention.

XIX. HAEMOLYTIC DISEASE INCLUDING Rh ISO IMMUNISATION

1. Mechanism; Prophylaxis; foetal complications.

XX. PUERPERIUM

1. Physiology; clinical features; complications: recognition and principles of management; prevention of puerperal sepsis.

XXI. BREAST FEEDING

1. Physiology of lactation; care of breasts; counselling regarding breast feeding; mastitis and breast abscess.

XXII. CARE OF NEWBORN

1. Assessment of maturity; detect asphyxia; principles of resuscitation; common problems.

XXIII. MEDICAL TERMINATION OF PREGNANCY

1. Legal aspects; indications; methods; complications.

2. Management of complications.

XXIV. CONTRACEPTION

1. Various methods and devices; selection of patients; counselling of couples; side effects; failures and complications.

XXV. OPERATIVE OBSTETRICS

1. Indications, technique and complications for episiotomy, vacuum extraction; low forceps, instrumental evacuation; menstrual regulation.

2. Indications and steps of operation: Caesarean section; assisted breech delivery; external cephalic version; cervical cerclage; intra-amniotic instillation.

XXVI. POST-CAESAREAN PREGNANCY

1. Risks; identification of scar dehiscence.

B. GYNAECOLOGY

I. PHYSIOLOGICAL VAGINAL DISCHARGE

1. Clinical characteristics.

II. PATHOLOGICAL VAGINAL DISCHARGE

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

III. ABNORMAL & EXCESSIVE MENSTRUAL BLEEDING

1. Definitions; classification of causes; clinical features; principles of investigation; diagnosis and management.

IV. AMENORRHOEA

1. Causes; principles of management.

V. DYSFUNCTIONAL UTERINE BLEEDING

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

VI. 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).

VII. ENDOMETRIOSIS & ALLIED STATES

1. Aetiopathology; clinical features; principles of investigation and management.
2. Implications on health and fertility.

VIII. GENITAL INJURIES & FISTULAE

1. Causes; prevention; clinical features; principles of management.

IX. GENITAL INFECTIONS

1. STD, AIDS and Pelvic Tuberculosis.
2. Infections affecting individual organs.
3. Aetiology; Pathology; clinical features; differential diagnosis; principles of basic investigation; medical therapy.
4. Long term implications; surgical management.

X. DISPLACEMENTS OF UTERUS

1. Genital Prolapse: Aetiology; clinical features; differential diagnosis; principles of management; preventive aspects.

XI. BENIGN TUMOURS OF PELVIC ORGANS

1. Ovarian and Uterine tumours: Types; Aetiopathology; clinical features; differential diagnosis; principles of management.

XII. MALIGNANCY OF GENITAL TRACT

1. Cancer cervix uteri: Aetiopathology; clinical features; screening procedures; investigations; diagnosis; principles of management.

2. Epidemiological aspects; management options.

XIII. OPERATIVE GYNAECOLOGY

1. Indications, technique and complications: Dilatation and Curettage (D&C); Fractional curettage; cervical biopsy.

2. Indications and steps of abdominal hysterectomy; surgery for ovarian tumours; vaginal surgery for utero-vaginal prolapse.

3. Laparoscopy; colposcopy; hysteroscopy; management of postoperative complications.

SKILLS

1. Obtain a proper relevant history and perform a humane and thorough clinical examination including internal examinations (per-rectal and per-vaginal) in adults and children.

2. Arrive at a logical working diagnosis after examination.

3. Order appropriate investigations keeping in mind their need, relevance and cost effectiveness.

4. Plan and institute a line of treatment which is need based, cost effective and appropriate for common ailments taking into consideration:

a. Patient

b. Disease

c. Socio-economic status

d. Institutional/governmental guidelines.

5. Recognise situations which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment.

6. Demonstrate interpersonal and communications skills befitting a physician in order to discuss the illness and its outcome with patient and family.

7. Determine gestational age.

8. Maintain an ethical behaviour in all aspects of medical practice.

9. Obtain informed consent for any examination/procedure.

10. Motivate colleagues, community and patients to participate actively in national health programmes.

11. Write a complete case record with all necessary details.

12. Write a proper discharge summary with all relevant information.

13. Write a proper referral note to secondary or tertiary centres or to other physicians with all necessary details.

14. Assess the need for and issue proper medical certificates to patients for various purposes.
15. Organise antenatal, postnatal, well-baby and other clinics.
16. Plan and manage health camps such as family welfare camp.
17. Adopt universal precautions for self protection against HIV and hepatitis and counsel patients.
18. Do and examine a wet film of vaginal smear for Trichomonas and fungus.
19. Take a pap smear.
20. Take punch biopsy of cervix.
21. Conduct normal vaginal delivery.
22. Do artificial rupture of membranes.
23. Perform and suture episiotomies.
24. Apply outlet forceps.
25. Do post partum tubectomy.
26. Perform MTP in the first trimester and be able to do evacuation in incomplete abortion.
27. Insert and remove IUCD.
28. Be able to diagnose and provide emergency management of antepartum and postpartum haemorrhage.

TOPICS FOR INTEGRATED TEACHING

1. Family Planning.
2. Embryology - integrated foetal growth and development.
3. Acute abdomen.
4. Care of newborn.
5. Prescribing in pregnancy.
6. Nutrition & Anaemia in pregnancy.
7. Physiological changes.
8. Neonatal resuscitation problems.

EVALUATION

Theory: Two papers of 60 Marks each	120 marks
(Paper I - Obstetrics including Social Obstetrics Paper II - Gynaecology and Family Welfare)	
Internal Assessment (Theory):	30 marks
Total for Theory	150 marks
University Clinical	90 marks
Viva - voce	30 marks
Internal Assessment (Clinical)	30 marks
Total for Clinical and viva	150 marks
Grand total for Obstetrics and Gynaecology	300 marks

GUIDELINES FOR CLINICAL AND VIVA

There shall be two pairs of Examiners for two batches of students.

Clinical I - Obstetrics - One long case -1 hr.	45 marks
Clinical II - Gynaecology - One long case-1hr	45 marks
Total	90 marks
Viva I - Obstetrics	15 marks
Viva II - Gynaecology and Family Welfare	15 marks
Total	30 marks

MARKS QUALIFYING FOR A PASS

Theory written	- 60/120
Theory written + I.A. (Theory)	- 75/150
University Clinical	- 45/90
Clinical + Viva + I.A. (Clinical)	- 75/150
Total in Obstetrics and Gynaecology	= 150/300

PAEDIATRICS

Departmental Objectives:

The objectives of training the undergraduate students in paediatrics is to ensure that at the end of the training he / she will be able to:

Diagnose and appropriately treat common paediatric and neonatal illnesses.

Identify paediatric and neonatal illnesses and problems that require secondary and tertiary care and refer them appropriately.

Advise and interpret relevant investigations.

Counsel and guide patient's parents and relatives regarding the illness, the appropriate care, the possible complications and the prognosis.

Provide emergency cardiopulmonary resuscitation to new borns and older children.

Participate in the National programmes effectively.

Diagnose and effectively treat acute paediatric and neonatal emergencies.

Discharge medico-legal and ethical responsibilities.

Perform routine investigative and therapeutic procedures.

Motivate parents to consent for a diagnostic autopsy.

COURSE CONTENTS

I. VITAL STATISTICS

1. Introduction to paediatrics with special reference to age related disorders.
2. Definition of mortality rates and ratios: infant, perinatal, maternal, and neonatal.
3. Causes and prevention of infant, perinatal and neonatal mortality.
4. National programmes on maternal and child health.

II. GROWTH AND DEVELOPMENT

1. Anthropometric and developmental assessment, normal and abnormal growth and development patterns, interpretation of growth curves and road to health chart.
2. Psychological and behavioural problems. Approach to a child with growth retardation and short stature.

III. NUTRITION

1. Normal requirements of protein, carbohydrate, fat, minerals, vitamins and trace elements for newborns, children, pregnant and lactating mothers.
2. Exclusive breast feeding, advantages of breast feeding, infant feeding, weaning diets, planning of preterm nutrition, therapeutic diet chart.

3. Recognition and treatment of nutritional deficiency disorders.
4. Protein energy malnutrition: classification, causes, management including that of complications.
5. National Nutritional and other child health and welfare programmes.
6. Management of problems related to lactation failure.
7. Hyper-vitaminosis.

IV. IMMUNISATION

1. National Immunisation programmes.

   Vaccines and vaccine - preventable diseases.
2. Principles of immunisation.

   Vaccine preservation and cold chain.

   Indications, contra-indications, adverse reaction and complications.
3. Investigations and reporting of vaccine preventable diseases.
4. Other newer vaccines - Haemophilus, pneumococcal, hepatitis, meningococcal, mumps, rubella.

V. INFECTIOUS DISEASES

1. Natural history, clinical course, signs, symptoms, investigations, management and prevention of common bacterial,

viral, parasitic and fungal infections with special reference to vaccine preventable disease, tuberculosis, mumps, rubella, typhoid, chicken pox and other common childhood exanthematous diseases, and parasitic infestations like Giardiasis, Malaria, Kala azar, Filariasis and Intestinal Helminthiasis.

VI. CENTRAL NERVOUS SYSTEM

1. Clinical diagnosis, investigations and treatment of acute CNS infections: Meningitis including tuberculosis, encephalitis, seizure disorders, febrile convulsions, Rheumatic Chorea.
2. Cerebral palsy, mental retardation, hydrocephalus.

VII. GASTROINTESTINAL SYSTEM

Clinical diagnosis, relevant investigations and management of:

1. Gastro-oesophageal reflux, GI bleeding, short gut syndrome, acute and chronic diarrhoea, complications of gastroenteritis.
2. Common hepatic disorders: Hepatitis, Indian Childhood Cirrhosis, Obstructive Jaundice, Portal Hypertension.
3. Abdominal tuberculosis, acute abdomen including surgical causes paralytic ileus, chronic constipation and rectal bleeding.
4. Budd-Chiari syndrome, Metabolic disorders like Wilson's disease.

VIII. GENITOURINARY SYSTEM

1. Clinical features, investigations, complications and management of acute glomerulonephritis; nephrotic syndrome; urinary tract infection - acute and recurrent.
2. Acute and chronic renal failure.

IX. CARDIOVASCULAR SYSTEM

1. Clinical features, diagnosis, investigation, prevention and treatment of acute rheumatic fever, rheumatic heart disease and complications.
2. Recognition of congenital acyanotic and cyanotic heart diseases and management of cyanotic spells.
3. Prevention, recognition and treatment of bacterial endocarditis
4. Diagnosis and management of congestive cardiac failure.
5. Clinical features, diagnosis, prevention and treatment of pericardial effusion and myocarditis

X. RESPIRATORY SYSTEM

1. Epidemiology, clinical features, investigation and management of acute respiratory infections of upper and lower tract.
2. Diagnosis and management of acute bronchial asthma, status asthmaticus, chronic suppurative lung diseases.
3. Diagnosis and appropriate management of foreign body aspiration.

XI. ENDOCRINE SYSTEM

1. Clinical recognition, causes, laboratory diagnosis, prevention and management of Hypothyroidism (cretinism).

2. Juvenile diabetes mellitus.

XII. HAEMATOLOGICAL SYSTEM

1. Recognition of clinical features, diagnosis, laboratory investigations and management of Nutritional and Haemolytic Anaemias.

2. Diagnosis and basic investigations of bleeding and coagulation disorders in newborn and older children, Leukaemia and Lymphomas.

XIII. NEONATOLOGY

1. Foetal physiology of normal pregnancy. Identification of antenatal, intrapartum and immediate postnatal risk factors.
2. Definition, Identification and classification of high risk neonate, Neonatal resuscitation, Gestational age assessment and Care of the normal newborn.

3. Management of neonatal problems: Transient metabolic disorders, Infections, Minor developmental defects, Infants of diabetic mothers, Haemorrhagic Disease of Newborn, Respiratory distress, Feeding difficulties, Birth injuries, Anaemia and Jaundice.

4. Management of meconium aspiration syndrome.

5. Care of the preterm and low birth weight infant: temperature maintenance, feeding, prevention of complications, appropriate method of transfer to tertiary centre.

6. Identification and referral of neonates with congenital malformations like cleft lip, cleft palate, tracheo-oesophagal fistula, diaphragmatic hernia, anorectal anomalies.

XIV. GENETIC DISORDERS

1. Terminologies, Down's Syndrome.

2. Genetic counselling.

XV. EMERGENCY PAEDIATRICS

1. Clinical features, aetiology, laboratory diagnosis, prevention and management of : Status asthmaticus, Status epilepticus, Acute pulmonary oedema, Hypertensive emergencies, Peripheral circulatory failure due to dehydration and haemorrhage, Cardiac failure, Cyanotic spells, Scorpion and snake envenomation, and Common poisoning like kerosine, datura, insecticide, etc.

Miscellaneous Disorders

1. Common childhood symptoms that cause undue parental anxiety but are of no serious importance: recurrent common cold, stubbornness, temper tantrum, refusal to eat.
2. Juvenile Rheumatoid Arthritis.

3. Perinatal, neonatal and paediatric HIV Infections; Mode of transmission and prevention strategies; Impact of HIV infection and AIDS on childhood immunisation.

SKILLS

1. Obtain a proper relevant history and perform a humane and thorough clinical examination of all organs/systems in children including neonates.

2. Arrive at a logical working diagnosis after clinical examination.

3. Order appropriate investigations keeping in mind their need, relevance and cost effectiveness.

4. Plan and institute a line of treatment which is need based, cost effective and appropriate for common ailments taking into consideration:

   a. Patient,

   b. Disease,

   c. Socio-economic status,

   d. Institutional/governmental guidelines.

5. Recognise situations which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment.

6. Demonstrate empathy and humane approach towards patients, relatives and attendants.

7. Develop a proper attitude towards patients, colleagues and other staff.

8. Maintain an ethical behaviour in all aspects of medical practice.

9. Monitor growth and development of children and differentiate normal from abnormal.

10. Assess and manage fluid/electrolyte and acid-base imbalance.

11. Manage diarrhoeas / dysenteries: Assess dehydration; prepare and administer oral rehydration therapy (ORT).

12. Detect and institute corrective measures for nutritional deficiency.

13. Write a complete case record with all necessary details.

14. Write a proper discharge summary with all relevant information.

15. Write a proper referral note to secondary or tertiary centres or to other physicians with all necessary details.

16. Organise antenatal, postnatal, well-baby and other clinics.

17. Motivate colleagues, community and patients to actively participate in national health programmes.

18. Organise and give training in first aid.

19. Adopt universal precautions for self protection against HIV and hepatitis and counsel patients.
20. Maintain cold chain for vaccines.
21. Perform and read Mantoux test.
22. Start i.v. line and infusion in children and neonates.
23. Do venous cutdown.
24. Give intradermal / SC / IM / IV injection.
25. Insert and manage a C.V.P. line
26. Conduct CPR (cardiopulmonary resuscitaion) and first aid in newborns/children including endotracheal intubation.
27. Pass a nasogastric tube.
28. Manage hyperpyrexia.

EVALUATION

Theory written: One Paper	80 marks
Internal Assessment (Theory)	20 marks
Total for Theory	100 marks
Clinical	60 marks
Viva - voce	20 marks
Internal Assessment (Clinical)	20 marks
Total for Clinical and viva	100 marks
Grand total for Paediatrics	200 marks

GUIDELINES FOR CLINICAL AND VIVA

Clinical I -	One Long case - 1 hour	30 marks
Clinical II -	One short case - 15 min.	20 marks
	Two spotters - 15 min.	10 marks
	Total	60 marks

Four examiners shall conduct the examination in two pairs for two batches of students.

Viva Voce I - Instruments, drugs, X.rays etc.

Viva Voce II - Theory

Two pairs of Examiners shall conduct the viva voce Examination.

MARKS QUALIFYING FOR A PASS

Theory written	- 40/80
Theory written + I.A. (Theory)	- 50/100
University Clinical	- 30/60
Clinical + Viva + I.A. (Clinical)	- 50/100
Total in Paediatrics	= 100/200

ANNEXURE - C

INTERNSHIP

1. GENERAL OBJECTIVE

Internship is a phase of training wherein a graduate is expected to learn actual practice of medical and health care and acquire skills under supervision so that he/she may become capable of functioning independently.

2. SPECIFIC OBJECTIVES

At the end of the internship training, the student shall be able to:

(i) Diagnose clinically common disease conditions encountered in practice and make timely decision for referral to higher level;

(ii) Use discreetly the essential drugs, infustions, blood or its substitutes and laboratory services;

(iii) Manage all types of emergencies - medical, surgical, obstetric, neonatal and paediatric by rendering primary 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.

(v) develop leadership qualities to function effectively as a leader of the health team organised to deliver the health and family welfare service in existing socio-economic, political and cultural environment;

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

3. TIME DISTRIBUTION

Time allocation to each discipline is approximate and shall be guided more specifically by the actual experience obtained. Thus a student serving in a district or taluk hospital emergency room may well accumulate skills in surgery, orthopaedics, medicine, Obstetrics and Gynaecology and Paediatrics during even a single night on duty. Responsible authorities from the medical college shall adjust the intern experience to maximize the intern's opportunities to practice skills in patient care in rough approximation to the time allocation suggested below:

Compulsory Postings

Community Medicine*	3 months
Medicine	2 months
Surgery including Orthopaedics	2 months
Obstetrics and Gynaecology including Family Welfare Planning	2 months
Paediatrics	15 days
Ophthalmology	15 days
Otorhinolaryngology	15 days
Casuality (including CPR)	15 days

Elective Postings ** One month

* Community medicine posting shall include 15 days of community paediatrics

** Elective postings will include two postings of 15 days in each in any two of the following departments:

(i) Dermatology and Sexually Transmitted Diseases.

(ii) Psychiatry

(iii) Tuberculosis and Respiratory Diseases.

(iv) Anaesthesiology.

(v) Radio-diagnosis

(vi) Physical Medicine and Rehabilitation

(vii) Forensic Medicine and Toxicology

(viii) Blood Bank and Transfusion Department.

4. OTHER DETAILS

(i) All parts of the internship shall be done as far as possible in institutions within India recognised for this purpose by the medical council of India.

(ii) Every candidate will be required after passing the final MBBS examination to undergo compulsory rotational resident internship to the satisfaction of the college authorities and the medical university 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 with the Medical Council.

(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 resident internship may be suitably extended by the appropriate authorities.

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

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

(vii) In recognition of the importance of hands-on experience, responsibility for patient care and skill acquisition, internship should be increasingly scheduled to utilize clinical facilities available in the District Hospital, Taluk Hospital, Community Health Centre and Primary Health Centre in addition to the Teaching Hospital.

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 certification 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) Each 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 the Dean of the medical college.

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 personnel 3 months of secondary care in a small District or Taluk 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 Programmes 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.

(x) One year's approved service in the Armed Forces Medical Services, after passing the final MBBS examination shall be considered as equivalent to the pre - registration training detailed above; such training shall, as far as possible be at the Base / General Hospital.

5. ASSESSMENT OF INTERNSHIP

(i) The Intern shall maintain a record of work which is to be verified and certified by the medical teacher under whom he works. Apart from scrutiny of the record of work, assessment and evalution of training shall be undertaken by an objective approach using situation tests in knowledge, skills and attitude during and at the end of each period of posting. Based on the record of work and periodic assessment the Dean/Principal shall issue a certificate of satisfactory completion of training, following which the University shall award the MBBS degree or declare him eligible for it. The graduate is then qualified for full registration with the state Medical Council

(ii) Satisfactory completion of each posting shall be determined on the basis of the following:

(1) Proficiency of knowledge SCORE 0-10

(2) Competency in skills as acquired by:

(a) Performing procedures
(b) Assisting in procedures
(c) Observing procedures SCORE 0-10

(3) (a) Responsibility, punctuality, initiative; follow - up reports
(b) research aptitude
(c) Capacity to work in a team - Behaviour with colleagues nursing staff and relationship with paramedical staff; Participation in duscussions. SCORE 0-10

TOTAL SCORE 0-30

Performance may be graded under each head as follows:

Poor / Below average / average / above average / excellent

<3 <5 5 & above 7 & above 9 to 10

An intern shall be required to have a minimum score of 5 in each of the three heads mentioned above failing which the concerned posting shall be taken as unsatisfactory. Each area of unsatisfactory score (below 5) shall result in the repetition of one third of the total period of posting in the concerned subject.

6. TRAINING IN EACH DISCIPLINE

Some guidelines in the implementation of the training programme are given below for each discipline.

(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, taluk hospital and primary health centre. The details of training are as under:

(i) COMMUNITY HEALTH CENTRE / DISTRICT HOSPITAL

(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 usuage.

(c) recognise medical emergencies, resuscitate and institute initial treatment and refer to suitable institution / department.

(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, LPI, CDD, ARI, FP, ANC, safe delivery, Tuberculosis, Leprosy and others as recommended by the 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 of using Audiovisual aids.

(c) acquire capability of utilization of scientific information for promotion of community health.

(5) Be capable of establilshing linkages with other agencies as water supply, food distribution and other enviornmental/social agencies.

(6) Acquire quality of being professional with dedication, resourcefulness and leadership.

(7) Acquire managerial skills by delegation of duties to paramedical staff and other health professionals and their supervision.

(ii) TALUQ HOSPITAL

Besides acquiring clinical skill in the evaluation of the patient within the enviornment 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 by use of appropriate contraceptives

   (c) applied nutrition and care of mothers and children

   (d) immunization

   (e) participation in school health programme.

(iii) PRIMARY HEALTH CENTRE

1. Initiate or participate in Family composite health care (birth to death), Inventory of events;
2. Participate in all 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 renal failure etc.
4. acquire proficiency for Family Welfare Programmes (ante natal care, normal delivery, contraception care etc.)

(II) GENERAL MEDICINE

1. Interns shall acquire the following training during their term:

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

2. The intern shall have assisted as care team in intensive care of cardiac, respiratory, hepatic, neurological and metabolic emergencies.

3. 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

   (e) Cerebrospinal Fluid (CSF) for smear

4. Conduct following diagnostic procedures:

   (a) Urethral catheterisation; Proctoscopy;

   (b) Opthalmoscopy; Otoscopy; Indirect laryngoscopy;

5. Therapeutic procedures; Insertion of Ryle's Tube;

   Pleural and ascitic tap, CSF tap by lumbar puncture; installing of air way tube, Oxygen administration etc.

6. 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.

7. (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.

8. Participate as a team member in total health care of an individual including appropriate follow-up and social rehabilitation.

9. Other competencies as indicated in general objectives.

(III) PAEDIATRICS:

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

The intern shall be able to:

1. diagnose and manage common childhood disorders including neonatal disorders and acute emergencies (enquiry from parents of sick children), examining a sick child and 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: (including from femoral vein and umbilical cord) abscess, cerebrospinal fluid, urine, pleura and peritoneum and common tissue biopsy techniques;

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

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

3. screening of new born 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. recognise growth abnormalities;

   b. recognise anomalies of psychomotor development;

   c. detect congenital abnormalities;

5. Assess nutritional and dietary status of infants and children and organise prevention, detection and follow up of deficiency disorders both at individual and community level such as:

   a. protein - energy malnutrition.

   b. deficiencies of vitamins expecially A,B,C and D;

   c. Iron deficiency

6. Institute early management of common childhood disorders with special reference to paediatric 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 patient

   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. catheterise patients with acute urinary 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) EMERGENCY DEPARTMENT (CASUALITY)

The student intern should be provided adequate experience and trainings to manage the common emergency conditions which are encountered in the casualty department of the hospital. These are:

1. Accident & Trauma - mostly from road traffic accident and industrial hazards causing injury to the soft tissues of the body, fracture of bones, partial or total loss of limbs, injury to the nerves / blood vessels, chest injuries leading to rib fracture with or without pneumothorax or haemothorax, head injuries, crush injuries etc.

2. Medical emergency conditions - which include acute shock and cardio - respiratory insufficiency, heart attack, cerbrovascular accident, convulsions, acute renal shut down, bronchial asthma with spasmodic bronchitis, acute endocrinal insufficiencies, hyperpyrexia, coma etc.

3. Surgical emergency conditions - which include acute abdominal conditions like ruptured internal organs / blood vessels, acute apendicitis, pancreatitis, obstructed hernia, torsion, strangulation, urinary obstruction, intestinal obstruction etc.

4. Intoxication and poisoning with drugs, chemicals etc., allergic reactions.

5. Burns

6. Obstetrical and Gynaecological conditions - like normal labour pain, abnormal labour, obstructed labour, spontaneous abortion, bleeding pv in pregnancy, other acute pelvic conditions like torsion, rupture, bleeding etc.

7. Paediatric conditions like low birth weight, severe dehydration, hyperpyrexia, convulsions, foreign body intrusion in body orifices, epistaxis, colic etc.

8. Ophthalmic conditions - like injury to eye, raised intraocular pressure, sudden blurring of vision etc.

9. E.N.T. conditions - like foreign bodies in nose / ear, injury to nose / ear, bleeding from nose / ear, airway obstruction etc.

10. Miscellaneous conditions - like drowning, snake bites, arthropod bites, electrical injuries, heat stroke, cold injury blast injury, acute dental conditions etc.

11. Medico legal conditions - like attempted suicide, homicides, gunshot injury, penetrating injury etc.

12. Psychiatric conditions - acute states of mental illnesses.

CPR: In addition to the above, during the four weeks of posting in the casualty / Emergency Department the intern should be trained in the techniques of Cardio Pulmonary Resuscitation.

(VI) OBSTETRICS AND GYNAECOLOGY:

Technical skills that interns are expected to learn:

1. diagnosis of early pregnancy and provision of antenatal care;
2. diagnosis of pathology of pregnancy related to
   a. abortions;
   b. ectopic pregnancy;
   c. tumours complicationing pregnancy;
   d. acute abdomen in early pregancy;
   e. hyperemesis gravidarum;

3. detection of high risk pregnancy cases and suitable advice e.g. PIH, hydramanios, antepartum haemorrhage, multiple pregnancies, abnormal presentations and intra-uterine 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 perineal tears;
7. to assist in forceps delivery;
8. to assist in caesarean section and postoperative care thereof;
9. detection and management of abnormalities of lactation;
10. to 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 as

    d. pap smear collection
    e. Intra Uterine Contraceptive Device (IUCD) insertion
    f. Minilap ligation
    g. urethral catheterisation
    h. suture removal in postoperative cases
    i. Cervical punch biopsy;
4. to assist in major abdominal and vaginal surgery cases in Obstetrics and Gynaecology.
5. to assist in following up postoperative cases of obstetrics and gynaecology such as
    a. Colposcopy
    b. Second trimester Medical Termination of Pregnancy (MTP) procedures e.g. Emeredyl Prostaglandin instillations;
16. To evaluate and prescribe oral contraceptive.

(VII) OTO RHINO LARYNGOLOGY (E.N.T.)

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

   a. antrum puncture and packing of the nose for epistaxis;

   b. nasal douching and packing of the external canal;

   c. remove foreign bodies from the nose and the ear; syringing of the ear;

   d. Observe or assist in various endoscopic procedures;

   e. 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 national programme on prevention of deafness.

5. he/she shall possess knowledge of various ENT rehabilitative programmes.

(VIII) OPHTHALMOLOGY

An intern shall be able to

1. diagnose and manage common ophthalmological conditions such as:-

Trauma, Acute conjunctivitis, allergic conjunctivitis, xerosis, entropion, corneal ulcer, iridocyclitis, myopia, hypermetropia, cataract, glaucoma, ocular injury and sudden loss of vision;

2. carry out assessment of refractive errors and advise its correction;

3. diagnose ocular changes in common systemic disorders;

4. perform investigative procedures such as

Tonometry, syringing, direct ophthalmoscopy, subjective refraction and fluorescein staining of cornea.

5. carry out or assist in 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 (assisted);

   12. Enucleation of eye in cadaver;

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

(IX) ORTHOPAEDICS

The intern must acquire the knowledge and skills that will enable him/her to diagnose and treat common ailments.

A. Diagnosis: He/she shall have ability to diagnose and suspect presence of fracture, dislocation, acute osteomyelitis, acute poliomyelitis and common congential deformities such as congenital talipes equinovarus (CTEV) and dislocation of hip (CDH)

B. Therapy: An intern must know

a. Splinting (plaster slab) for the purpose of emergency splintage, definitive splintage and post operative splintage and application of Thomas splint;

b. Manual reduction of common fractures - phalangeal, metacarpal, metatarsal and Colles's fracture;

c. Manual reduction of common dislocations-interphalangeal, metacarpophalangeal, elbow and shoulder dislocations;

d. Plaster cast application for undisplaced fractures of arm, forearm, leg and ankle;

e. Emergency care of a multiple injury patient;

f. Precautions about transport and bed care of spinal cord injury patients;

C. Counselling: An intern should be able to advice about

(1) Prognosis of poliomyelitis, cerebral palsy, CTEV and CDH;

(2) Rehabilitation of amputees and mutilating traumatic and leprosy deformities of hand;

D. Surgery: An intern must have observed or preferably assisted at the following operations:

(1) drainage for acute osteomyelitis;

(2) sequestrectomy in chronic osteomyelitis;

(3) application of external fixation;

(4) internal fixation of fractures of long bones.

ELECTIVE POSTINGS

(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 procedurs for making bedside diagnosis, specially the examihation of scrapings for fungus, prepration of slit smears and staining for AFB for leprosy patient and for STD cases;

(3) take a skin biposy for diagnositc purpose;

(4) manage common diseases recognoizing the need for referral for specialized care in case of inappropriateness of therapeatic response

(XI) PSYCHIATRY:

An intern must be able to:

(1) diagnose and manage common psychiatric disorders;

(2) identify and manage psychological reactioin and psychiatric disorders in medical and surgical patients in clinical practice and community setting.

(XII) TUBERCULOSIS 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 aetiological organism like AFB, interpretation of chest X-rays and respiratory function tests;

(3) Interpret and manage various blood gas changes and pH abnormalities in various respiratory diseases;

(4) manage common diseases recognizing need for referral for specialized care in case of in-appropriateness of therapeutic response;

(5) perform common procedures like laryngoscopy, pleural aspiration, respiratroy physio-therapy, laryngeal intubation and pneumo-thoracic drianage aspiration.

(XIII) ANAESTHESIOLOGY:

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

(1) perform pre-anaesthetic check up and prescribe preanesthetic medications;

(2) perfrom venepuncture and set up intravenous drip;

(3) perform laryngoscopy and endotracheal intubation;

(4) perfrom lumbar puncture, spinal anaesthesia and simple nerve blocks;

(5) conduct simple general anaesthetic procedures under supervision;

(6) monitor patients during anesthesia and post-operative period;

(7) recognize and manage problems associated with emergency anaesthesia;

(8) maintain anaesthetic records;

(9) recognize and treat complications in post operative period;

(10) perform cardio pulmonary brain resuscitatiion (C.P.B.R.) correctly, including recognition of cardiac arrest.

(XIV) RADIO - DIAGNOSIS:

An intern after training must know

(1) all aspects of Emergency Room Radiology like

(a) all acute abdominal conditions;

(b) all acute traumatic condition with emphasis on head injuries;

(c) differentiation between Medical and surgical radiological emergencies;

(2) Basic hazards and precautions in Radio diagnositc 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 disabiling conditiions like polio-myelitis, cerebral palsy, hemiplegia, paraplgia, amputations etc.;

(2) participation as a team member in total rebailitation inlcluding appropriate follow up of common disabiling conditions;

(3) principles and procedures of fabrication and repair of artifical limbs and appliances;

(4) variuous therapeutic modalities;

(5) use of self help devices and splints and mobility aids;

(6) familiarity with accesibility problems and home making for the disabled;

(7) ability to demonstrate simple exercise therapy in common conditions like prevention of deformity in pollo, stump exercise in an amputee etc.

(XVI) FORENSIC MEDICNE 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 indentify 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.

(XVII) BLOOD BANK AND TRANSFUSION DEPARTMENT

During the two weeks of elective positng the intern shall learn

(1) Blood grouping in OAB and Rh systmes - typing, corss matching;

(2) Selection of blood donors; Screening for diseases;

(3) Coellection of blood; separation of blood components;

(4) Storage of blood and blood components - changes during storage;

(5) Transfusion of blood and blood components;

(6) Transfusion reactions - management;

(7) Infections spread by transfusion.