M.B.B.S
REGULATIONS
&
LEARNING OBJECTIVES (SUBJECT-WISE)
IN ACCORDANCE WITH
MEDICAL COUNCIL OF INDIA REGULATIONS

School of Medical Sciences and Research
Sharda University
Greater Noida- 201306
OBJECTIVE OF MEDICAL GRADUATE TRAINING PROGRAMME

At the end of MBBS program, the medical student should be able to:

- diagnose and manage common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.

- practice preventive, promotive, curative and rehabilitative medicine in respect to the commonly encountered health problems.

- appreciate rationale for different therapeutic modalities, be familiar with the administration of the "essential drugs" and their common side effects.

- appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.

- familiar with the various National Health Programs, and the ways in which they are being implemented.

- demonstrate communication skills, both verbal and written to establish effective communication with the clients (patients, relatives, and general public), health team partners, and scientific community.

- develop attitude for self learning and acquire necessary skills including the use of appropriate technologies, for pursuing self directed learning for a life time.

Training Period and Time Distribution

Every student shall undergo a period of certified study extending over 4 ½ academic years divided into 9 semesters (i.e. of 6 months each) from the date of commencement of the course followed by one year compulsory rotating internship. The period of 4 ½ years is divided into three phases as follows:

Phase-I (2 semesters) - consists of Pre-clinical subjects (Human Anatomy, Physiology, Biochemistry and introduction to Community Medicine including Humanities).

Phase-II (3 semesters) - consisting of para-clinical/ clinical subjects. During this phase teaching of para-clinical and clinical subjects shall be done concurrently. The para-clinical subjects consist of Pathology, Pharmacology, Microbiology, Forensic Medicine including Toxicology and part of Community Medicine. The clinical subjects shall consist of all those detailed below in Phase III.

Phase-III: The clinical subjects to be taught during Phase II & III are Medicine and its allied specialties, Surgery and its allied specialties, Obstetrics and Gynaecology and Community
Medicine. The Medicine and its allied specialties training will include General Medicine, Paediatrics, Respiratory medicine, Tuberculosis and Chest, Dermatology, Psychiatry, Radiodiagnosis. The Surgery and its allied specialties training will include General Surgery, Orthopaedics, Ophthalmology, Otorhinolaryngology, Anaesthesia. The Obstetrics & Gynaecology training will include family medicine, family welfare planning etc.

**Phase Distribution and Examinations**

The nine semesters of six months each are distributed to three phases as detailed below:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Semesters</th>
<th>Examination</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>I and II</td>
<td>1st Professional Examination</td>
<td>Anatomy, Physiology, Biochemistry</td>
</tr>
<tr>
<td>Phase II</td>
<td>III, IV and V</td>
<td>2nd Professional Examination</td>
<td>Pharmacology, Pathology, Microbiology, Forensic Medicine</td>
</tr>
<tr>
<td>Phase III (Part I)</td>
<td>VI and VII</td>
<td>3rd Professional Examination</td>
<td>Ophthalmology, Otolaryngology, Community Medicine</td>
</tr>
<tr>
<td>Phase -II (Part-II)</td>
<td>VIII and IX</td>
<td>Final Professional Examination</td>
<td>General Medicine, General Surgery, Obstetrics and Gynaecology, Paediatrics</td>
</tr>
</tbody>
</table>

**General Considerations & Teaching Approach**

Graduate medical curriculum is oriented towards training students to undertake the responsibilities of a physician of first contact who is capable of looking after the preventive, promotive, curative and rehabilitative aspects of medicine.

With the wide range of career opportunities available today, a graduate has a wide choice of career opportunities. Training though broad based and flexible should aim to provide an educational experience of the essentials required for health care in our country. Training should be able to meet internationally acceptable standards.

To undertake the responsibilities of service situation which is a changing condition and of various types, it is essential to provide adequate placement training tailored to the needs of such services as to enable the graduates to become effective instruments of implementation of those requirements. To avail of opportunities and be able to conduct professional requirements, the graduate shall endeavour to have acquired basic training in different aspects of medical care.

The importance of the community aspects of health care and of rural health care services shall be recognized. This aspect of education and training of graduates shall be adequately recognized in the prescribed curriculum. This shall be emphasized and intensified by providing exposure to field practice areas and training during the internship period. The aim of the period of rural training during internship shall enable the fresh graduate to function efficiently under such settings.
The educational experience should emphasize health and community orientation instead of only disease and hospital orientation or being concentrated on curative aspects. As such, all the basic concepts of modern scientific medical education shall be adequately dealt with.

There shall be enough experiences to be provided for self-learning. The methods and techniques that would ensure this must become a part of teaching – learning process.

The medical graduate of modern scientific medicine shall endeavour to become capable of functioning independently in both urban and rural environment. He/ She shall endeavour to give emphasis on fundamental aspects of the subjects taught and on common problems of health and diseases avoiding unnecessary details of specialization.

The importance of social factors in relation to the problems of health and diseases should receive proper emphasis throughout the course and to achieve this purpose the educational process should also be community based than only hospital based. The importance of population control and family welfare planning should be emphasized throughout the period of training with the importance of health and development duly emphasized.

Adequate emphasis shall be placed on cultivating logical and scientific habits of thought, clarity of expression, independence of judgement and ability to collect and analyze information and to correlate them.

Lectures alone are generally not adequate as a method of training, therefore, every effort shall be made to encourage the use of active learning methods. Students will be encouraged to learn in small groups through peer interactions and shall be taught in a setting of clinical relevance and hands on experience so that they assimilate and make the knowledge a part of their own working skills.

The graduate medical education in clinical subjects shall be based primarily on outpatient teaching emergency departments and within the community including peripheral health care institutions. The outpatient departments should be suitably planned to provide training to graduates in small groups.

Clinics shall 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 improve his skill and competence in handling of the patient.

Efforts shall be made to encourage students to participate in group discussions and seminars to enable them to develop personality, character, expression and other facilities which are necessary for a medical graduate to function either in solo practice or as a team leader when he begins his independent career.

Faculty members shall avail of modern educational technology while teaching the students.
Prescribed Teaching Hours

Following minimum teaching hours are prescribed by MCI in various disciplines:

- **Pre-Clinical Subjects : (Phase-I-First and Second Semester)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy</td>
<td>650 Hrs.</td>
</tr>
<tr>
<td>Physiology</td>
<td>480 Hrs.</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>240 Hrs.</td>
</tr>
<tr>
<td>Community Medicine</td>
<td>60 Hrs.</td>
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- **Para-Clinical Subjects: (Phase-II-5th to 7th Semester)**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathology</td>
<td>300 Hrs.</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>300 Hrs.</td>
</tr>
<tr>
<td>Microbiology</td>
<td>250 Hrs.</td>
</tr>
<tr>
<td>Community Medicine</td>
<td>200 hrs. (including 8 weeks posting of 3hrs. each)</td>
</tr>
<tr>
<td>Forensic Medicine</td>
<td>100 Hrs.</td>
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- **Clinical Subjects: The clinical lectures to be held from 4th Semester**

<table>
<thead>
<tr>
<th>No</th>
<th>Subject</th>
<th>Hours</th>
<th>No</th>
<th>Subject</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gen-Medicine</td>
<td>300 hrs.</td>
<td>8</td>
<td>Gen. Surgery</td>
<td>300 hrs.</td>
</tr>
<tr>
<td>2</td>
<td>Paediatrics</td>
<td>100 hrs</td>
<td>9</td>
<td>Orthopaedics</td>
<td>100 hrs.</td>
</tr>
<tr>
<td>3</td>
<td>T.B. and Chest</td>
<td>20 hrs</td>
<td>10</td>
<td>Ophthalmology</td>
<td>100 hrs.</td>
</tr>
<tr>
<td>4</td>
<td>Psychiatry</td>
<td>20 hrs</td>
<td>11</td>
<td>ENT</td>
<td>70 hrs.</td>
</tr>
<tr>
<td>5</td>
<td>Skin and STD</td>
<td>30 hrs</td>
<td>12</td>
<td>Radiology</td>
<td>20 hrs.</td>
</tr>
<tr>
<td>6</td>
<td>Community Medicine</td>
<td>50 hrs.</td>
<td>13</td>
<td>Dentistry</td>
<td>10 hrs.</td>
</tr>
<tr>
<td>7</td>
<td>Anaesthesia</td>
<td>20 hrs</td>
<td>14</td>
<td>Obst &amp; Gynae.</td>
<td>300 hrs.</td>
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</table>
Clinical postings as per chart attached.

During semesters 3 to 9 following clinical postings for each student, of 3 hrs. duration is suggested for various departments after introductory course in Clinical Methods in Medicine and surgery of 2 weeks each for the whole class.

<table>
<thead>
<tr>
<th>Subjects</th>
<th>3rd Semester weeks</th>
<th>4th Semester weeks</th>
<th>5th Semester weeks</th>
<th>6th Semester weeks</th>
<th>7th Semester weeks</th>
<th>8th Semester weeks</th>
<th>9th Semester weeks</th>
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<td>4</td>
<td>-</td>
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<td>6</td>
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<td>26</td>
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<tr>
<td>Paediatrics</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>2</td>
<td>4</td>
<td>-</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>TB &amp; Chest</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>02</td>
</tr>
<tr>
<td>Skin &amp; STD</td>
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<td>-</td>
<td>2</td>
<td>-</td>
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<td>-</td>
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<td>2</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>Radiology</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>02</td>
</tr>
<tr>
<td>Gen Surgery</td>
<td>6</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>4</td>
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<td>6</td>
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<tr>
<td>Orthopaedics</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Opthalmology</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>10</td>
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<tr>
<td>ENT</td>
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<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>08</td>
</tr>
<tr>
<td>Obst. &amp;Gyn.</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>-</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>24</td>
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<tr>
<td>Comm. Med.</td>
<td>4</td>
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<td>-</td>
<td>4</td>
<td>-</td>
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<tr>
<td>Casualty</td>
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<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>02</td>
</tr>
<tr>
<td>Dentistry</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>02</td>
</tr>
<tr>
<td>Total</td>
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<td>22</td>
<td>18</td>
<td>22</td>
<td>18</td>
<td>22</td>
<td>22</td>
<td>142</td>
</tr>
</tbody>
</table>
Learning objectives (Subject Wise)

Pre-clinical subjects - Phase I

In the teaching of these subjects stress shall be laid on basic principles of the subjects with emphasis on their applied aspects.

ANATOMY

Goal: The broad goal of the teaching of undergraduate students in Anatomy aims at providing comprehensive knowledge of the gross and microscopic structure and development of human body to provide a basis for understanding the clinical correlation of organs or structures involved and the anatomical basis for the disease presentations.

OBJECTIVES

a. Knowledge:

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

- comprehend the normal disposition, clinically relevant interrelationships, functional and cross-sectional anatomy of the various structures in the body.
- identify the microscopic structure and correlate elementary ultra-structure of various organs and tissues and correlate the structure with the functions as a prerequisite for understanding the altered state in various disease processes.
- comprehend the basic structure and connections of the central nervous system to analyse the integrative and regulative functions of the organs and systems. He/She should be able to locate the site of gross lesions according to the deficits encountered.
- demonstrate knowledge of the basic principles and sequential development of the organs and systems, recognise the critical stages of development and the effects of common teratogens, genetic mutations and environmental hazards. He/She should be able to explain the developmental basis of the major variations and abnormalities.

b. Skills:

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

- identify and locate all the structures of the body and mark the topography of the living anatomy.
- identify the organs and tissues under the microscope.
- understand the principles of karyotyping and identify the congenital anomalies.
- understand principles of newer imaging techniques and interpretation of Computerised Tomography (CT) Scan, Sonogram etc.
- understand clinical basis of some common clinical procedures i.e., intramuscular & intravenous injection, lumbar puncture and kidney biopsy etc.

PHYSIOLOGY
Goal: The broad goal of the teaching of undergraduate students in Physiology aims at providing the student comprehensive knowledge of the normal functions of the organ systems of the body to facilitate an understanding of the physiological basis of health and disease.

OBJECTIVES

a. Knowledge:

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

- explain the normal functioning of all the organ systems and their interactions for well coordinated total body function.
- assess the relative contribution of each organ system to the maintenance of the milieu interior.
- elucidate the physiological aspects of normal growth and development.
- describe the physiological response and adaptations to environmental stresses.
- list the physiological principles underlying pathogenesis and treatment of disease.

b. Skills:

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

- conduct experiments designed for study of physiological phenomena.
- interpret experimental/investigative data.
- distinguish between normal and abnormal data derived as a result of tests which he/she has performed and observed in the laboratory.

BIOCHEMISTRY

OBJECTIVES

a. Knowledge:

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

- describe the molecular and functional organization of a cell and list its subcellular components.
- delineate structure, function and inter-relationships of biomolecules and consequences of deviation from normal.
- summarize the fundamental aspects of enzymology and clinical application wherein regulation of enzymatic activity is altered.
- describe digestion and assimilation of nutrients and consequences of malnutrition.
- integrate the various aspects of metabolism and their regulatory pathways.
- explain the biochemical basis of inherited disorders with their associated sequelae.
- describe mechanisms involved in maintenance of body fluid and pH homeostasis.
- outline the molecular mechanisms of gene expression and regulation, the principles of genetic engineering and their application in medicine.
- summarize the molecular concepts of body defence and their application in medicine.
- outline the biochemical basis of environmental health hazards, biochemical basis of cancer and carcinogenesis.
• familiar with the principles of various conventional and specialized laboratory investigations and instrumentation analysis and interpretation of a given data.
• to suggest experiments to support theoretical concepts and clinical diagnosis.

b. Skills:

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

• make use of conventional techniques/instruments to perform biochemical analysis relevant to clinical screening and diagnosis.
• analyze and interpret investigative data.
• demonstrate the skills of solving scientific and clinical problems and decision making.

Para Clinical Subjects of Phase II

PATHOLOGY

Goal: The broad goal of the teaching of undergraduate student in Pathology is to provide the students with a comprehensive knowledge of the mechanisms and causes of disease, in order to enable him/her to achieve complete understanding of the natural history and clinical manifestations of disease.

OBJECTIVES

a. Knowledge

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

• describe the structure and ultrastructure of a sick cell, mechanisms of cell degeneration, cell death and repair and be able to correlate structural and functional alterations.
• explain the pathophysiological processes which govern the maintenance of homeostasis, mechanisms of their disturbance and the morphological and clinical manifestations associated with it.
• describe the mechanisms and patterns to tissue response to injury such that she/he can appreciate the pathophysiology of disease processes and their clinical manifestations.
• correlate normal and altered morphology (gross and microscopic) of different organ systems in common diseases to the extent needed for understanding of disease processes and their clinical significance.

b. Skills

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

• describe the rationale and principles of technical procedures of the diagnostic laboratory tests and interpretation of the results.
• perform the simple bed-side tests on blood, urine and other biological fluid samples.
• draw a rational scheme of investigations aimed at diagnosing and managing the cases of common disorders.
• understand biochemical/physiological disturbances that occur as a result of disease in collaboration with pre- clinical departments.
MICROBIOLOGY

**Goal:** The broad goal of the teaching of undergraduate students in Microbiology is to provide an understanding of the natural history of infectious disease in order to deal with the etiology, pathogenesis, laboratory diagnosis, treatment and control of infections in the community.

**OBJECTIVES**

**a. Knowledge**

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

- state the infective micro-organisms of the human body and describe the host parasite relationship.
- list pathogenic micro-organisms (bacteria, viruses, parasites, fungi) and describe the pathogenesis of the diseases produced by them.
- state or indicate the modes of transmission of pathogenic and opportunistic organisms and their sources, including insect vectors responsible for transmission of infection.
- describe the mechanisms of immunity to infections.
- acquire knowledge on suitable antimicrobial agents for treatment of infections and scope of immunotherapy and different vaccines available for prevention of communicable diseases.
- apply methods of disinfection and sterilization to control and prevent hospital and community acquired infections.
- recommend laboratory investigations regarding bacteriological examination of food, water, milk and air.

**b. Skills**

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

- plan and interpret laboratory investigations for the diagnosis of infectious diseases and to correlate the clinical manifestations with the etiological agent.
- identify the common infectious agents with the help of laboratory procedures and use antimicrobial sensitivity tests to select suitable antimicrobial agents.
- perform commonly employed bed-side tests for detection of infectious agents such as blood film for malaria, filaria, gram staining and AFB staining and stool sample for ova cyst.
- Use the correct method of collection, storage and transport of clinical material for microbiological investigations.

PHARMACOLOGY

**Goal:** The broad goal of the teaching of undergraduate students in Pharmacology is to inculcate a rational and scientific basis of therapeutics.

**OBJECTIVES**

**a. Knowledge**

At the end of the course, the student should be able to:
- describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs.
- list the indications, contraindications, interactions and adverse reactions of commonly used drugs.
- indicate the use of appropriate drug in a particular disease with consideration to its cost, efficacy and safety for individual needs.
- mass therapy under national health program.
- describe the pharmacokinetic basis, clinical presentation, diagnosis and management of common poisonings.
- list the drugs of addiction and recommend the management.
- classify environmental and occupational pollutants and state the management issues.
- indicate causations in prescription of drugs in special medical situations such as pregnancy, lactation, infancy and old age.
- integrate the concept of rational drug therapy in clinical pharmacology.
- state the principles underlying the concept of 'Essential Drugs'.
- evaluate the ethics and modalities involved in the development and introduction of new drugs.

b. Skills

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

- prescribe drugs for common ailments.
- recognise adverse reactions and interactions of commonly used drugs.
- observe experiments designed for study of effects of drugs, bioassay and interpretation of the experimental data.
- scan information on common pharmaceutical preparations and critically evaluate drug formulations.

**FORENSIC MEDICINE INCLUDING TOXICOLOGY**

**Goal:** The broad goal of the teaching of undergraduate students in Forensic Medicine is to produce a physician who is well informed about medicolegal responsibilities in practice of medicine. He/She will also be capable of making observations and inferring conclusions by logical deductions to set enquiries on the right track in criminal matters and connected medicolegal problems. He/She acquires knowledge of law in relation to medical practice, medical negligence and respect for codes of medical ethics.

**OBJECTIVES**

a. Knowledge:

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

- identify the basic medicolegal aspects of hospital and general practice.
- define the medicolegal responsibilities of a general physician while rendering community service either in a rural primary health centre or an urban health centre.
- appreciate the physician's responsibilities in criminal matters and respect for the codes of medical ethics.
- diagnose, manage and identify also legal aspects of common acute and chronic poisonings.
• describe the medicolegal aspects and findings of post-mortem examination in case of death due to common unnatural conditions & poisonings.
• detect occupational and environmental poisoning prevention and epidemiology of common poisoning and their legal aspects particularly pertaining to Workmen's Compensation Act.
• describe the general principles of analytical toxicology.

b. Skills:

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

• make observations and logical inferences in order to initiate enquiries in criminal matters and medicolegal problems.
• diagnose and treat common emergencies in poisoning and manage chronic toxicity.
• make observations and interpret findings at post-mortem examination.
• observe the principles of medical ethics in the practise of his profession.

COMMUNITY MEDICINE

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

OBJECTIVES

a. Knowledge

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

• describe the health care delivery system including rehabilitation of the disabled in the country.
• describe the National Health programmes with particular emphasis on maternal and child health programmes, family welfare planning and population control.
• list epidemiological methods and describe their application to communicable and non-communicable diseases in the community or hospital situation.
• apply biostatistical methods and techniques.
• outline the demographic pattern of the country and appreciate the roles of the individual, family, community and socio-cultural milieu in health and disease.
• describe the health information systems
• enunciate the principles and components of primary health care and the national health policies to achieve the goal of 'Health for All'.
• identify the environmental and occupational hazards and their control.
• describe the importance of water and sanitation in human health.
• to understand the principles of health economics, health administration, health education in relation to community.

b. Skills:

At the end of the course, the student should be able to:
• use epidemiology as a scientific tool to make rational decisions to community and individual patient intervention.
• collect, analyse, interpret and present simple community and hospital based data.
• diagnose and manage common health problems and emergencies at the individual, family and community levels keeping in mind the existing health care resources and in the context of the prevailing socio-cultural beliefs.
• diagnose and manage maternal and child health problems and advise a couple and the community on the family planning methods available in the context of the national priorities.
• diagnose and manage common nutritional problems at the individual and community level.
• plan, implement and evaluate a health education programme with the skill to use simple audio-visual aids.
• interact with other members of the health care team and participate in the organisation of health care services and implementations of national health programmes.

Clinical Subjects of Phase II and III

The teaching and training in clinical subjects will commence at the beginning of Phase II and continue throughout.

The clinical subjects will be taught to prepare the MBBS graduates to understand and manage clinical problems at the level of a practitioner. Exposure to subject matter will be limited to orientation and knowledge required of a general doctor. Maximum attention to the diagnosis and management of the most common and important conditions encountered in general practice shall be emphasised in all clinical subject areas. Instructions in clinical subjects shall be given both in out-patient and in-patient during clinical posting.

MEDICINE & ITS ALLIED SPECIALITIES

MEDICINE

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

OBJECTIVES

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

diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, tropical and environmental diseases.
outline various modes of management including drug therapeutics especially dosage, side effects, toxicity, interactions, indications and contra-indications.
propose diagnostic and investigative procedures and ability to interpret them.
provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required.
recognize geriatric disorders and their management.

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

- develop clinical skills (history taking, clinical examination and other instruments of examination) to diagnose various common medical disorders and emergencies.
- refer a patient to secondary and/or tertiary level of health care after having instituted primary care.
- perform simple routine investigations like haemogram, stool, urine, sputum and biological fluid examinations.
- assist the common bedside investigative procedures like pleural tap, lumbar puncture, bone marrow aspiration/biopsy and liver biopsy.

**PAEDIATRICS**

**Goal:** The broad goal of the teaching of undergraduate students in Paediatrics is to acquire adequate knowledge and appropriate skills for optimally dealing with major health problems of children to ensure their optimal growth and development. The course includes systematic instructions in growth and development, nutritional needs of a child, immunization schedules and management of common diseases of infancy and childhood.

**OBJECTIVES**

**a. Knowledge:**

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

- describe the normal growth and development during foetal life, neonatal period, childhood and adolescence and outline deviations thereof.
- describe the common paediatric disorders and emergencies in terms of epidemiology, etiopathogenesis, clinical manifestations, diagnosis, rational therapy and rehabilitation.
- state age related requirements of calories, nutrients, fluids, drugs etc. in health and disease.
- describe preventive strategies for common infectious disorders, malnutrition, genetic and metabolic disorders, poisonings, accidents and child abuse.
- outline national programmes relating to child health including immunization programmes.

**b. Skills:**

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

- take a detailed paediatric history, conduct an appropriate physical examination of children including neonates, make clinical diagnosis, conduct common bedside investigative procedures, interpret common laboratory investigation results and plan and institute therapy.
- take anthropometric measurements, resuscitate new born infants at birth, prepare oral rehydration solution, perform tuberculin test, administer vaccines available under current national programs, perform venesection, start an intravenous saline and provide nasogastric feeding.
- conduct diagnostic procedures such as lumbar puncture, liver and kidney biopsy, bone marrow aspiration, pleural tap and ascitic tap.
• distinguish between normal new born babies and those requiring special care and institute early care to all new born babies including care of preterm and low birth weight babies, provide correct guidance and counselling in breast feeding.
• provide ambulatory care to all sick children, identify indications for specialized/inpatient care and ensure timely referral of those who require hospitalization.

PSYCHIATRY

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

OBJECTIVES

a. Knowledge:

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

• comprehend nature and development of different aspects of normal human Behaviour like learning, memory, motivation, personality and intelligence.
• recognize differences between normal and abnormal behaviour.
• classify psychiatric disorders.
• recognize clinical manifestations of the following common syndromes and plan their appropriate management of organic psychosis, functional psychosis, schizophrenia, affective disorders, neurotic disorders, personality disorders, psycho-physiological disorders, drug and alcohol dependence, psychiatric disorders of childhood and adolescence.
• describe rational use of different modes of therapy in psychiatric disorders.

b. Skills:

The student should be able to:

• interview the patient and understand different methods of communications in patient-doctor relationship.
• elicit detailed psychiatric case history and conduct clinical examination for assessment of mental status.
• define, elicit and interpret psycho-pathological symptoms and signs.
• diagnose and manage common psychiatric disorders.
• identify and manage psychological reactions and psychiatric disorders in medical and surgical patients in clinical practice and in community setting.

DERMATOLOGY

Goal: The aim of teaching the undergraduate student in Dermatology, S.T.D. and Leprology is to impart such knowledge and skills that may enable him to diagnose and treat common ailments and to refer rare diseases or complications/unusual manifestations of common diseases, to the specialist.

OBJECTIVES:
a. Knowledge:

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

- demonstrate sound knowledge of common diseases, their clinical manifestations, including emergent situations and of investigative procedures to confirm their diagnosis.
- describe the mode of action of commonly used drugs, their doses, side-effects/toxicity, indications and contra-indications and interactions.
- describe commonly used modes of management including the medical and surgical procedures available for the treatment of various diseases and to offer a comprehensive plan of management for a given disorder.

b. Skills:

The student should be able to:

- interview the patient, elicit relevant and correct information and describe the history in a chronological order.
- conduct clinical examination, elicit and interpret physical findings and diagnose common disorders and emergencies.
- perform simple, routine investigative and office procedures required for making the bedside diagnosis, especially the examination of scrapings for fungus, preparation of slit smears and staining for AFB for leprosy patients and for STD cases.
- take a skin biopsy for diagnostic purposes.
- manage common diseases recognizing the need for referral for specialized care, in case of inappropriateness of therapeutic response.

SURGERY & ITS ALLIED SPECIALITIES

SURGERY

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

OBJECTIVES

a. Knowledge:

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

- describe aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and children.
- define indications and methods for fluid and electrolyte replacement therapy including blood transfusion.
- define asepsis, disinfection and sterilization and recommended judicious use of antibiotics.
• describe common malignancies in the country and their management including prevention.
• enumerate different types of anaesthetic agents, their indications, mode of administration, contraindications and side effects.

b. Skills:

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

• diagnose common surgical conditions both acute and chronic, in adult and children.
• plan various laboratory tests for surgical conditions and interpret the results.
• identify and manage patients of haemorrhagic, sepsicaemia and other types of shock.
• be able to maintain patent air-way and resuscitate
  o a critically injured patient
  o patient with cardio-respiratory failure
  o a drowning case
• monitor patients of head, chest, spinal and abdominal injuries, both in adults and children.
• provide primary care for a patient of burns.
• acquire principles of operative surgery, including pre-operative, operative and post-operative care and monitoring.
• treat open wounds including preventive measures against tetanus and gas gangrene.
• diagnose neonatal and paediatric surgical emergencies and provide sound primary care before referring the patient to secondary/tertiary centres.
• identify congenital anomalies and refer them for appropriate management.
• In addition to these he should have observed/assisted/ performed the following:
  • Incision and drainage of abscess
  • Debridement and suturing open wound
  • Venesection
  • Excision of simple cyst and tumours
  • Biopsy of surface malignancy
  • Catheterisation and nasogastric intubation
  • Circumcision
  • Meatotomy
  • Vasectomy
  • Peritoneal and pleural aspirations
  • Diagnostic proctoscopy
  • Hydrocele operation
  • Endotracheal intubation
  • Tracheostomy and cricothyroidotomy
  • Chest tube insertion.

ORTHOPEDICS

a. Knowledge:

The student should be able to:

• explain the principles of recognition of bone injuries and dislocation.
• apply suitable methods to detect and manage common infections of bones and joints.
identify congenital, skeletal anomalies and their referral for appropriate correction or rehabilitation.
recognize metabolic bone diseases as seen in this country.
explain etiogenesis, manifestations, diagnosis of neoplasm affecting bones.

b. Skills:

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

detect sprains and deliver first aid measures for common fractures and sprains and manage uncomplicated fractures of clavicle, Colles fracture etc.
techniques of splinting, plaster, immobilization etc.
management of common bone infections, learn indications for sequestration, amputations and corrective measures for bone deformities.
aspects of rehabilitation for Polio, Cerebral Palsy and Amputation.

**RADIODEIGNOSIS & IMAGING**

**Goal:** The broad goal of teaching the undergraduate medical students in the field of Radiodiagnosis should be aimed at making the students realise the basic need of various radio-diagnostic tools in medical practice. They should be aware of the techniques required to be undertaken in different situations for the diagnosis of various ailments as well as during prognostic estimations.

**OBJECTIVES**

**a. Knowledge:**

The student should be able to:

- understand basics of X-ray production, its uses and hazards.
- appreciate and diagnose changes in bones - like fractures, infections, tumours and metabolic bone diseases.
- identify and diagnose various radiological changes in disease conditions of chest and mediastinum, skeletal system, G.I. Tract, Hepatobiliary system and G.U. system.
- learn about various imaging techniques, including isotopes C.T., Ultrasound, M.R.I. and D.S.A.

**b. Skill:**

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

- use basic protective techniques during various imaging procedures.
- interpret common X-ray, radio-diagnostic techniques in various community situations.
- advise appropriate diagnostic procedures in specialized circumstances to appropriate specialists.

**RADIOThERAPY**

**Goal:** The broad goal of teaching the undergraduate medical students in the field of Radiotherapy is to make the students understand the magnitude of the ever-increasing cancer
problem in the country. The students must be made aware about steps required for the prevention and possible cure of this dreaded condition.

**OBJECTIVES**

**a. Knowledge:**

The students should be able to:

- identify symptoms and signs of various cancers and their steps of investigations and management.
- explain the effect of radiation therapy on human beings and the basic principles involved in it.
- know about radio-active isotopes and their physical properties
- be aware of the advances made in radiotherapy in cancer management and knowledge of various radio therapeutic equipment while treating a patient.

**b. Skill:**

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

- take a detailed clinical history of the case suspected of having a malignant disease.
- assist various specialists in administration of anticancer drugs and in application and use of various radiotherapeutic equipment, while treating a patient.

**OTO-RHINO-LARYNGOLOGY**

**Goal:** The broad goal of the teaching of undergraduate students in Otorhinolaryngology is that the undergraduate student have acquired adequate knowledge and skills for optimally dealing with common disorders and emergencies and principles of rehabilitation of the impaired hearing.

**OBJECTIVES**

**a. Knowledge:**

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

- describe the basic pathophysiology of common ENT diseases and emergencies.
- adopt the rational use of commonly used drugs, keeping in mind their adverse reactions.
- suggest common investigative procedures and their interpretation.

**b. Skills:**

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

- examine and diagnose common ENT problems including the pre-malignant and malignant disorders of the head and neck.
- manage ENT problems at the first level of care and be able to refer whenever necessary.
- assist/carry out minor surgical procedures like ear syringing, ear dressings, nasal packing etc.
assist in certain procedures such as tracheostomy, endoscopies and removal of foreign bodies.

**OPHTHALMOLOGY**

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

**OBJECTIVES**

**a. Knowledge:**
At the end of the course, the student should have knowledge of:

- common problems affecting the eye.
- principles of management of major ophthalmic emergencies.
- main systemic diseases affecting the eye.
- effects of local and systemic diseases on patient's vision and the necessary action required to minimise the sequelae of such diseases.
- adverse drug reactions with special reference to ophthalmic manifestations.
- magnitude of blindness in India and its main causes.
- national programme of control of blindness and its implementation at various levels.
- eye care education for prevention of eye problems.
- role of primary health centre in organization of eye camps.
- organization of primary health care and the functioning of the ophthalmic assistant.
- integration of the national programme for control of blindness with the other national health programmes.
- eye bank organization

**b. Skills:**
At the end of the course, the student should be able to:

- elicit a history pertinent to general health and ocular status.
- assist in diagnostic procedures such as visual acuity testing, examination of eye, Schiotz tonometry, staining for Corneal pathology, confrontation perimetry, Subjective refraction including correction of presbyopia and aphakia, direct ophthalmoscopy and conjunctival smear examination and Cover test.
- diagnose and treat common problems affecting the eye.
- interpret ophthalmic signs in relation to common systemic disorders.
- assist/observe therapeutic procedures such as subconjunctival injection, Corneal/Conjunctival foreign body removal, Carbolic cautery for corneal ulcers, Nasolacrimal duct syringing and tarsorrphy.
- provide first aid in major ophthalmic emergencies.
- assist to organise community surveys for visual check-up.
- assist to organise primary eye care service through primary health centres.
- use effective means of communication with the public and individual to motivate for surgery in cataract and for eye donation.
• establish rapport with his seniors, colleagues and paramedical workers, so as to effectively function as a member of the eye care team.

**OBSTETRICS AND GYNAECOLOGY**

Obstetrics and Gynaecology to include family welfare and family planning.

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

**OBJECTIVES**

**a. Knowledge:**

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

- Outline the anatomy, physiology and pathophysiology of the reproductive system and the common conditions affecting it.
- detect normal pregnancy, labour puerperium and manage the problems he/she is likely to encounter therein.
- list the leading causes of maternal and perinatal morbidity and mortality.
- understand the principles of contraception and various techniques employed, methods of medical termination of pregnancy, sterilisation and their complications.
- identify the use, abuse and side effects of drugs in pregnancy, pre-menopausal and post-menopausal periods.
- describe the national programme of maternal and child health and family welfare and their implementation at various levels.
- identify common gynaecological diseases and describe principles of their management. state the indications, techniques and complications of surgeries like Caesarian section, laparotomy, abdominal and vaginal hysterectomy, Fothergill's operation and vacuum aspiration for M.T.P.

**b. Skills:**

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

- examine a pregnant woman; recognise high risk pregnancies and make appropriate referrals.
- conduct a normal delivery, recognise complications and provide postnatal care.
- resuscitate the new born and recognise congenital anomalies.
- advise a couple on the use of various available contraceptive devices and assist in insertion in and removal of intra-uterine contraceptive devices.
- perform pelvic examination, diagnose and manage common gynaecological problems including early detection of genital malignancies.
- make a vaginal cytological smear, perform a post coital test and wet vaginal smear examination for Trichomonas vaginalis, moniliasis and gram stain for gonorrhoea.
- interpretation of data of investigations like biochemical, histopathological, radiological, ultrasound etc.
EXAMINATION REGULATIONS

Essentialities for qualifying to appear in professional examinations.

The performance in essential components of training are to be assessed, based on:

a. ATTENDANCE:

75% of attendance in a subject for appearing in the examination is compulsory.

b. INTERNAL ASSESSMENT:

- It shall be based on day to day assessment, evaluation of student assignment, preparation for seminar, clinical case presentation etc.
- Regular periodical examinations shall be conducted throughout the course.
- Day to day records shall be given importance during internal assessment.
- Weightage for the internal assessment shall be 20% of the total marks in each subject.
- Student must secure at least 35% marks of the total marks fixed for internal assessment in a particular subject in order to be eligible to appear in final university examination of that subject.

UNIVERSITY EXAMINATIONS:

Theory papers will be prepared by the external examiners as prescribed. Nature of questions will be structured long/short answer type/objective type and marks for each part indicated separately. The theory papers in pre and paraclinical subjects will give due weightage to the applied aspects and clinical subjects will include questions based on basic sciences also.

The Practical/clinical examination will be conducted in the laboratories or hospital wards. Objective will be to assess proficiency in skills, conduct of experiment, interpretation of data and logical conclusion. Clinical cases should preferably include common diseases the student is likely to come across in practice. Rare cases/obscure syndromes, long cases of neurology etc. shall not be kept for the final examination. Emphasis should be on candidate’s capability in eliciting physical signs and their interpretation.

Viva/oral includes evaluation of management approach and handling of emergencies. Candidate’s skill in interpretation of common investigative data, x-rays, identification of specimens, ECG, etc. also is to be evaluated.

There shall be one main university examination in a year and a supplementary to be held not later than 6 months after the publication of its results. Universities Examinations shall be held as under:

- **First Professional:** In the second Semester of Phase I training, in the subjects of Anatomy, Physiology and Bio-Chemistry.
- **Second Professional:** In the Fifth Semester of Phase II training, in the subjects of Pathology, Microbiology, Pharmacology and Forensic Medicine.
- **Third Professional:** In the Seventh Semester of Phase III (Part-I), in the subjects of Ophthalmology, Oto-rhyno-laryngology and Community Medicine.
- **Final Professional:** At the end of Phase III (Part-II) training in the subjects of Medicine, Surgery, Obstetrics & Gynaecology and Paediatrics.
Criteria for Pass

In each of the subjects, a candidate must obtain 50% in aggregate for a pass. This 50% in aggregate includes:

A separate minimum of 50% in aggregate for theory including viva (University theory + Viva + Internal Assessment) & a separate minimum of 50% in aggregate for Practicals/clinics (University Practicals/clinics+ Internal assessment).

Grace marks up to a maximum of five in total may be awarded for an examination at the discretion of the passing board for a student to pass one subject (theory only) provided the student has passed in all other subjects. Grace marks will not be awarded to change internal assessment marks.

A candidate who fails in any one subject but obtains pass marks in another subject of the same examination shall be exempted from re-examination in the subject, which the candidate has passed. Candidates who fail in any subject shall be required to produce a certificate for further study for the period, which shall extend to the next succeeding examination.

Distribution of Marks

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Subject</th>
<th>Theory Paper I</th>
<th>Theory Paper II</th>
<th>IA</th>
<th>Total</th>
<th>Practical</th>
<th>IA</th>
<th>Total</th>
<th>Subject total</th>
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<tbody>
<tr>
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<td>Anatomy</td>
<td>50</td>
<td>50</td>
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<td>20</td>
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<td>Physiology</td>
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<td>50</td>
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<td>20</td>
<td>140</td>
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<td>Biochemistry</td>
<td>50</td>
<td>50</td>
<td>20</td>
<td>20</td>
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<td>4.</td>
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<td>15</td>
<td>110</td>
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<tr>
<td>6.</td>
<td>Microbiology</td>
<td>40</td>
<td>40</td>
<td>15</td>
<td>15</td>
<td>110</td>
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<td>40</td>
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<td>7.</td>
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<td>0</td>
<td>30</td>
<td>10</td>
<td>40</td>
<td>100</td>
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<tr>
<td>8.</td>
<td>Ophthalmology</td>
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<td>-</td>
<td>10</td>
<td>0</td>
<td>30</td>
<td>10</td>
<td>40</td>
<td>100</td>
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<td>9.</td>
<td>Otorhinolaryngology</td>
<td>40</td>
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<td>Community Medicine</td>
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<td>170</td>
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<td>100</td>
<td>30</td>
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<td>13.</td>
<td>Obstetrics &amp; Gynaecology</td>
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<td>30</td>
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<td>14.</td>
<td>Paediatrics</td>
<td>40</td>
<td>-</td>
<td>10</td>
<td>0</td>
<td>60</td>
<td>30</td>
<td>10</td>
<td>40</td>
</tr>
</tbody>
</table>

* General Medicine Paper II (will include questions from Psychiatry, Dermatology and STD).
** General Surgery Paper I- (will include questions from orthopaedics) and Paper -II (will include questions from Anaesthesiology and Radiology).

Note:
- Results of all university examinations shall be declared before the start of teaching for next semester.
- Passing in I\textsuperscript{st} Professional is compulsory before proceeding to Phase II training.
- A student who fails in the II\textsuperscript{nd} professional examination should not be allowed to appear III\textsuperscript{rd} Professional Part I examination unless he passes all subjects of II\textsuperscript{nd} Professional examination.
- Passing in III\textsuperscript{rd} Professional (Part-I) is compulsory for being eligible for final Professional (Part II) examination.
INTERNSHIP

General

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

SPECIFICE OBJECTIVES

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

- Diagnose clinical common disease conditions encountered in practice and make timely decision for referral to higher level;
- Use discreetly the essential drugs, infusions, blood or its substitutes and laboratory services.
- Manage all type of emergencies-medical, surgical obstetric, neonatal and paediatric, by rendering first level care;
- Demonstrate skills in monitoring of the National Health Programme and schemes, oriented to provide preventive and promotive health care services to the community;
- 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;
- Render services to chronically sick and disabled (both physical and mental) and to communicate effectively with patient and the community.

Internship – Time Distribution

<table>
<thead>
<tr>
<th>Compulsory and elective postings</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Medicine</td>
<td>2 months</td>
</tr>
<tr>
<td>Medicine including 15 days of Psychiatry</td>
<td>2 months</td>
</tr>
<tr>
<td>Surgery including 15 days Anaesthesia</td>
<td>2 months</td>
</tr>
<tr>
<td>Obst./Gynae. including Family Welfare Planning</td>
<td>2 months</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>1 month</td>
</tr>
<tr>
<td>Orthopaedi cs including PMR</td>
<td>1 month</td>
</tr>
<tr>
<td>ENT</td>
<td>15 days</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>15 days</td>
</tr>
<tr>
<td>Casualty</td>
<td>15 days</td>
</tr>
<tr>
<td>Elective Posting (1x15 days)</td>
<td>15 days</td>
</tr>
</tbody>
</table>

Subjects for Elective posting will be as follows:

Elective posting will include two of the following for 15 days in each subject.
Other Details:

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

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

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

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 the shortage or unsatisfactory work, the period of provisional registration and the compulsory rotating internship may be suitably extended by the appropriate authorities.

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

Assessment of Internship:

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

**A comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) Graduate**

1. Clinical Evaluation:

   - To be able to take a proper and detailed history. Comprehensive
   - To perform a complete and thorough physical examination and elicit clinical signs.
   - To be able to properly use the Stethoscope, Blood Pressure Apparatus, Auroscope, Thermometer, Nasal Speculum, Tongue Depressor, Weighing Scales, Vaginal Speculum etc;
   - To be able to perform internal examination – Per Rectum (PR), Per Vaginum (PV) etc;
   - To arrive at a proper provisional clinical diagnosis.
II. Bed Side Diagnostic Tests:

- To do and interpret Haemoglobin (HB), Total Count (TC), Erythrocyte Sedimentation Rate (ESR), Blood smear for parasites, Urine examination – albumin/ sugar/ ketone/ microscopic;
- Stool exam for ova and cysts;
- Gram staining and Ziehl-Nielsen staining for AFB;
- To do skin smear for lepra bacilli;
- To do and examine a wet film vaginal smear for trichomonas;
- To do skin scraping and Potassium Hydroxide (KOH) stain for fungus infections;
- To perform and read Mantoux Test.

III. Ability to carry out Procedures:

- To conduct CPR (Cardiopulmonary resuscitation) and First aid in newborns, children and adults;
- To give Subcutaneous (SC)/ Intramuscular (IM)/ Intravenous (IV) injections and start Intravenous (IV) infusions;
- To pass a nasogastric tube and give gastric lavage;
- To administer oxygen – by mask/ catheter;
- To administer enema
- To pass a urinary catheter – male and female;
- To insert flatus tube;
- To do pleural tap, ascitic tap & lumbar puncture;
- Insert intercostals tube to relieve tension pneumothorax;
- To relieve cardiac tamponade;
- To control external haemorrhage.

IV. Anaesthetic Procedures:

- Administer local anestheisia and nerve block;
- Be able to secure airway patency and administer Oxygen by Ambu bag;

V. Surgical Procedures:

- To apply splints, bandages and Plaster of Paris (POP) slabs;
- To do incision and drainage of abscesses;
- To perform the management and suturing of superficial wounds;
- To carry on minor surgical procedures, e.g, excision of small cysts and nodules, circumcision, debridement of wounds etc;
- To perform vasectomy;
- To manage anal fissures and give injections for piles.

VI. Mechanical Procedures:

- To perform thorough antenatal examination and identify high risk pregnancies;
- To conduct normal delivery;
- To apply low forceps and perform and suture episiotomies;
- To insert and remove IUDs and perform tubectomy.

VII. Paediatrics:
• To assess new born and recognize abnormalities and intra uterine retardation;
• To conduct immunization;
• To teach infant feeding to mothers;
• To monitor growth by the use of “road to health chart” and to recognize development retardation;
• To assess dehydration and prepare and administer Oral Rehydration Therapy (ORT);
• To recognize acute respiratory infection clinically.

VII. ENT Procedures:

• To perform nasal packing of epistaxis;
• To perform tracheostomy;

VIII. Ophthalmic Procedures.

• To evert eye-lids;
• To give Subconjunctival injection;
• To perform epilation of eye-lashes;
• To measure the refractive error and advise correctional glasses;
• To perform nasolacrimal duct syringing for patency.

IX. Community Health

• To be able to supervise and motivate community and para-professionals for corporate efforts for the health care;
• To be able to carry on managerial responsibilities; e.g. Management of stores, indenting and stock keeping and accounting;
• Planning and management of health camps;
• Implementation of national health programmes;
• To effect proper sanitation measures in the community; e.g. disposal of infected garbage and chlorination of drinking water;
• To identify and institute control measures for epidemics including its proper data collecting and reporting.

X. Forensic Medicine including Toxicology

• To be able to carry on proper medicolegal examination and documentation of injury and age reports;
• To be able to conduct examination for sexual offences and intoxications;
• To be able to preserve relevant ancillary materials for medicolegal examination;
• To be able to identify important post-mortem findings in common un-natural deaths;

XI. Management of Emergencies.

• To manage acute anaphylactic shock;
• To manage peripheral vascular failure and shock;
• To manage acute pulmonary oedema and left ventricular failure;
• Emergency management of drowning, poisoning and seizures;
• Emergency management of bronchial asthma and status asthmatics;
- Emergency management of hyperpyrexia;
- Emergency management of comatose patients regarding airways, positioning – prevention of aspiration and injuries;
- Assess and administer emergency management of burns