ORDINANCE No. V (8)

ORDINANCE RELATING TO MBBS COURSE AND SYLLABUS

CHAPTER-1

1. This ordinance may be called the "ordinance relating to MBBS course and syllabus"
2. It shall come into force with immediate effect.

CHAPTER-2

ELIGIBILITY AND SELECTION

The Eligibility criteria, selection procedure and migration shall be strictly as per the MCI guidelines as follows:

Admission to the Medical Course –

Eligibility Criteria : No Candidate shall be allowed to be admitted to the Medical Curriculum of first Bachelor of Medicine and Bachelor of Surgery (MBBS) Course until :

1. He/She shall complete the age of 17 years on or before 31st December, of the year of admission to the MBBS course.
2. He/She has passed qualifying examination as under :-

   a. The higher secondary examination or the Indian School Certificate Examination which is equivalent to 10+2 Higher Secondary Examination after a period of 12 years study, the last two years of study comprising of physics, Chemistry, Biology and Mathematics or any other elective subjects with English at a level not less than core course of English as prescribed by the National Council of Educational Research and Training after the introduction of the 10+2+3 years educational structure as recommended by the National Committee on education.

   Note: Where the course content is not as prescribed for 10+2 education structure of the National Committee, the candidates will have to undergo a period of one year pre-professional training before admission to the Medical colleges;

   Or

   b. The intermediate examination in science of an Indian University/Board or other recognised examining body with Physics, Chemistry and Biology which shall include a practical test in these subjects and also English as a compulsory subject.

   Or

   c. The pre-professional/pre-medical examination with Physics, Chemistry and Biology, after passing either the higher secondary school examination, or the pre-university or an equivalent Examination. The pre-professional/pre-medical examination shall include a practical test in Physics, Chemistry and Biology and also English as a compulsory subject.

Or

d. The first year of the three years degree course of a recognized university, with Physics, chemistry and Biology including a practical test in three subjects provided the examination is a "University Examination" and candidate has passed 10+2 with English at a level not less than a core course.

Or

e. B.Sc. examination of an Indian University, provided that he/she has passed the B.Sc. examination with not less than two of the following subjects Physics, Chemistry, Biology (Botany, Zoology) and further that he/she has passed the earlier qualifying examination with the following subjects – Physics, Chemistry, Biology and English.

Or

f. Any other examination which, in scope and standard is found to be equivalent to the intermediate science examination of an Indian University/Board, taking Physics, Chemistry and Biology including practical test in each of these subjects and English.

Note:

- The pre-medical course may be conducted either at Medical College, or a science College.
- Marks obtained in Mathematics are not to be considered for admission to MBBS Course.
- After the 10+2 course is introduced, the integrated courses should be abolished.

Selection of Students:

The selection of students to medical college shall be based solely on merit of the candidate and for determination of the merit, a competitive examination shall be held for the same.

Procedure for selection to MBBS course shall be as follows:-

i. In case of admission on the basis of qualifying examination under clause (1) based on merit, candidate for admission to MBBS course must have passed in the subjects of Physics, Chemistry, Biology & English individually and must have obtained a minimum of 50% marks taken together in Physics, Chemistry and Biology at the qualifying examination as mentioned in the clause (2) of regulation 4. In respect of candidates belonging to Scheduled Castes, Scheduled Tribes or Other Backward

classes. The marks obtained in Physics, Chemistry and Biology taken together in qualifying examination shall be 40% instead of 50% as above.

ii. In case of admission of the basis of Competitive entrance examination under clause (2) to (4) of this regulation, a candidate must have passed in the subjects of Physics,. Chemistry, Biology and English individually and must have obtained a minimum of 50% of marks taken together in Physics Chemistry and Biology at the qualifying examination as mentioned in clause (2) of regulation 4 and in addition must have come in the merit list prepared as a result of such competitive entrance examination by securing not less then 50% marks in Physics, Chemistry and Biology competitive examination. In respect of candidates belonging to Schedule Caste, Schedule Tribes or other Backward Class the marks obtained in Physics, Chemistry, and Biology taken together in qualifying examination and competitive entrance examination shall be 40% instead of 50% as stated above.

Provided that a candidate who has appeared in the qualifying examination the result of which has not been declared, he may be provisionally permitted to take up the competitive entrance examination and in case of selection for admission to the MBBS course, he shall not be admitted to that course until he fulfils the eligibility criteria under regulation 4.

CHAPTER- 3

CURRICULUM (SUBJECTWISE)

Subharti Medical College shall strictly follow the curriculum for the different departments as per the guidelines of MCI. The curriculum for different departments is as follows :

CURRICULUM (SUBJECT-WISE)

Pre-clinical subjects - Phase I : In the teaching of these subjects stress shall be laid on basic principles of the subjects with more emphasis on their applied aspects.

(1) **HUMAN ANATOMY**

(i) **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.

ii) **Objectives :**

A) **Knowledge :**

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

a. comprehend the normal disposition, clinically relevant interrelationships, functional and cross sectional anatomy of the various structures in the body.

b. 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.

c. 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.

d. 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:

(a) identify and locate all the structures of the body and mark the topography of the living anatomy.

(b) identify the organs and tissues under the microscope.

(c) understand the principles of karyotyping and identify the gross congenital anomalies.

(d) understand principles of newer imaging techniques and interpretation of Computerised Tomography (CT) Scan, Sonogram etc.

(e) understand clinical basis of some common clinical procedures i.e., intramuscular & intravenous injection, lumbar puncture and kidney biopsy etc.

(C) **Integration**

From the integrated teaching of other basic sciences, student should be able to comprehend the regulation and integration of the functions of the organs and systems in the body and thus interpret the anatomical basis of disease process.

(2) HUMAN PHYSIOLOGY INCLUDING BIO-PHYSICS

(A) PHYSIOLOGY

i) 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.

ii) OBJECTIVES

a) KNOWLEDGE

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

(1) explain the normal functioning of all the organ systems and their interactions for well coordinated total body function.

(2) assess the relative contribution of each organ system to the maintenance of the milieu interior.

(3) elucidate the physiological aspects of normal growth and development.

(4) describe the physiological response and adaptations to environmental stresses.

(5) list the physiological principles underlying pathogenesis and treatment of disease.

b) **SKILLS**

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

(1) conduct experiments designed for study of physiological phenomena.

(2) interpret experimental/investigative data.

(3) distinguish between normal and abnormal data derived as a result of tests which he/she has performed and observed in the laboratory.

c) **INTEGRATION**

At the end of the integrated teaching the student should acquire an integrated knowledge of organ structure and function and its regulatory mechanisms.

(B) BIOPHYSICS

(a) **GOAL & OBJECTIVES :** The broad goal of teaching Biophysics to undergraduate students is that they should understand basic physical principles involved in the functioning of body organs in normal and diseased conditions.

Total time for teaching Biophysics = 5 hours

Out of which : 1. Didactic lectures = 3 hours

2. Tutorial/group discussion = 1 hour

3. Practical = 1 hour

(b) Topic distribution

(1) Lectures :

(i) Physical principles of transport across cell memberanes and across capillary wall.

ii) Biopotentials.

iii) Physical principles governing flow of blood in heart and blood vessels. Also physical principles governing flow of air in air passages.

2. Tutorial/group discussion: On the topic covered in didactic lectures.

3. Practicals:

Demonstration of :

a) Biopotential on oscilloscope

b) Electro Encephalogram (EEG)

c) Electro Myelogram (EMG)

d) Electro Cardiogram (ECG)

(3) **BIOCHEMISTRY**

Biochemistry including medical physics and Molecular Biology.

i) **GOAL**

The broad goal of the teaching of undergraduate students in biochemistry is to make them understand the scientific basis of the life processes at the molecular level and to orient them towards the application of the knowledge acquired in solving clinical problems.

ii) **OBJECTIVES**

a) **KNOWLEDGE**

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

(1) describe the molecular and functional organization of a cell and list its subcellular components;

(2) delineate structure, function and inter-relationships of biomolecules and consequences of deviation from normal;

(3) summarize the fundamental aspects of enzymology and clinical application wherein regulation of enzymatic activity is altered;

(4) describe digestion and assimilation of nutrients and consequences of malnutrition;

(5) integrate the various aspects of metabolism and their regulatory pathways;

(6) explain the biochemical basis of inherited disorders with their associated sequelae;

(7) describe mechanisms involved in maintenance of body fluid and pH homeostasis;

(8) outline the molecular mechanisms of gene expression and regulation, the principles of genetic engineering and their application in medicine;

(9) summarize the molecular concepts of body defence and their application in medicine;

(10) outline the biochemical basis of environmental health hazards, biochemical basis of cancer and carcinogenesis;

(11) familiarize with the principles of various conventional and specialized laboratory investigations and instrumentation analysis and interpretation of a given data;

(12) the ability to suggest experiments to support theoretical concepts and clinical diagnosis.

b. **SKILLS:**

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

(1) make use of conventional techniques/instruments to perform biochemical analysis relevant to clinical screening and diagnosis;

(2) analyze and interpret investigative data;

(3) demonstrate the skills of solving scientific and clinical problems and decision making;

c. **INTEGRATION**

The knowledge acquired in biochemistry should help the students to integrate molecular events with structure and function of the human body in health and disease.

(4) **INTRODUCTION TO HUMANITIES & COMMUNITY MEDICINE**

Including Introduction to the subjects of Demography, Health Economics, Medical Sociology, Hospital Management, Behavioral Sciences inclusive of Psychology.

OBJECTIVES

a) **KNOWLEDGE**

The student shall be able to :

1. explain the principles of sociology including demographic population dynamics;
2. identify social factors related to health, disease and disability in the context of urban and rural societies;
3. appreciate the impact of urbanization on health and disease;
4. observe and interpret the dynamics of community behavior;
5. describe the elements of normal psychology and social psychology;
6. observe the principles of practice of medicine in hospital and community setting;

(b). **SKILLS**

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

(1) Principles of practice of medicine in hospital and community settings and familiarization with elementary nursing practices.

(2) Art of communication with patients including history taking and medico-social work.

Teaching of community medicine, should be both theoretical as well as practical. The practical aspects of the training programme should include visits to the health establishments and to the community where health intervention programmes are in operation.

In order to inculcate in the minds of the students the basic concepts of community medicine to be introduced in this phase of training, it is suggested that the detailed

curriculum drawn should include at least 30 hours of lectures, demonstrations, seminars etc. together with atleast 15 visits of two hours each.

PARA CLINICAL SUBJECTS OF PHASE II

9.1 PATHOLOGY:

i) 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.

ii) OBJECTIVES

a) KNOWLEDGE

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

(1) 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.

(2) explain the pathophysiological processes which govern the maintenance of homeostasis, mechanisms of their disturbance and the morphological and clinical manifestations associated with it.

3. 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.

4. 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:-

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

c. **INTEGRATION**

At the end of training he/she should be able to integrate the causes of disease and relationship of different etiological factors (social, economic and environmental) that contribute to the natural history of diseases most prevalent in India.

9.2 **MICROBIOLOGY**

i) **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.

ii) **OBJECTIVES**

a. **KNOWLEDGE**

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

1. state the infective micro-organisms of the human body and describe the host parasite relationship.
2. list pathogenic micro-organisms (bacteria, viruses, parasites, fungi) and describe the pathogenesis of the diseases produced by them.
3. state or indicate the modes of transmission of pathogenic and opportunistic organisms and their sources, including insect vectors responsible for transmission of infection.
4. describe the mechanisms of immunity to infections.
5. acquire knowledge on suitable antimicrobial agents for treatment of infections and scope of immunotherapy and different vaccines available for prevention of communicable diseases.
6. apply methods of disinfection and sterilization to control and prevent hospital and community acquired infections.
7. 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:

1. plan and interpret laboratory investigations for the diagnosis of infectious diseases and to correlate the clinical manifestations with the etiological agent.
2. identify the common infectious agents with the help of laboratory procedures and use antimicrobial sensitivity tests to select suitable antimicrobial agents.

3. 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.

4. Use the correct method of collection, storage and transport of clinical material for microbiological investigations.

c. **INTEGRATION**

The student should understand infectious diseases of national importance in relation to the clinical, therapeutic and preventive aspects.

(3) **PHARMACOLOGY**

i) **GOAL:**

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

ii) **OBJECTIVES**

a. **KNOWLEDGE**

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

1. describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs.
2. list the indications, contraindications, interactions and adverse reactions of commonly used drugs.
3. indicate the use of appropriate drug in a particular disease with consideration to its cost, efficacy and safety for
   i) individual needs.
   ii) mass therapy under national health program.
4. describe the pharmacokinetic basis, clinical presentation, diagnosis and management of common poisonings.
5. list the drugs of addiction and recommend the management.
6. classify environmental and occupational pollutants and state the management issues.
7. indicate causations in prescription of drugs in special medical situations such as pregnancy, lactation, infancy and old age.
8. integrate the concept of rational drug therapy in clinical pharmacology.
9. state the principles underlying the concept of 'Essential Drugs'
10. 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:

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

c. **INTEGRATION**

Practical knowledge of use of drugs in clinical practice will be acquired through integrated teaching with clinical departments and pre clinical departments.

(4) FORENSIC MEDICINE INCLUDING TOXICOLOGY

i) **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.

ii) **OBJECTIVES**

a. **KNOWLEDGE**

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

1. identify the basic medicolegal aspects of hospital and general practice.
2. define the medicolegal responsibilities of a general physician while rendering community service either in a rural primary health centre or an urban health centre.
3. appreciate the physician's responsibilities in criminal matters and respect for the codes of medical ethics.
4. diagnose, manage and identify also legal aspects of common acute and chronic poisonings.
5. describe the medicolegal aspects and findings of post-mortem examination in case of death due to common unnatural conditions & poisonings.

6. detect occupational and environmental poisoning, prevention and epidemiology of common poisoning and their legal aspects particularly pertaining to Workmen's Compensation Act.

7. describe the general principles of analytical toxicology.

b) **SKILLS**

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

1. make observations and logical inferences in order to initiate enquiries in criminal matters and medicolegal problems.

2. diagnose. and treat common emergencies in poisoning and manage chronic toxicity.

3. make observations and interpret findings at postmortem examination.

4. observe the principles of medical ethics in the practise of his profession.

(c) **INTEGRATION**

Department shall provide an integrated approach towards allied disciplines like Pathology, Radiology, Forensic Sciences, Hospital Administration etc. to impart training regarding medicolegal responsibilities of physicians at all levels of health care. Integration with relevant disciplines will provide scientific basis of clinical toxicology e.g. medicine, pharmacology etc.

(5) **COMMUNITY MEDICINE**

i) **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.

ii) **OBJECTIVES**

a) **KNOWLEDGE**

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

(1) describe the health care delivery system including rehabilitation of the disabled in the country;

(2) describe the National Health Programmes with particular emphasis on maternal and child health programmes, family welfare planning and population control.

(3) list epidemiological methods and describe their application to communicable and non-communicable diseases in the community or hospital situation.

(4) apply biostatistical methods and techniques;

(5) outline the demographic pattern of the country and appreciate the roles of the individual, family, community and socio-cultural milieu in health and disease.

(6) describe the health information systems.

(7) enunciate the principles and components of primary health care and the national health policies to achieve the goal of 'Health for All'.

(8) identify the environmental and occupational hazards and their control.

(9) describe the importance of water and sanitation in human health.

(10) 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 :-

(1) use epidemiology as a scientific tool to make rational decisions relevant to community and individual patient intervention.

(2) collect, analyse, interpret and present simple community and hospital based data.

(3) diagnose and manage common health problems and emergencies at the individual, family and community level keeping in mind the existing health care resources and in the context of the prevailing socio-cultural beliefs.

(4). 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.

(5) diagnose and manage common nutritional problems at the individual and community level.

(6) plan, implement and evaluate a health education programme with the skill to use simple audio-visual aids.

(7) interact with other members of the health care team and participate in the organisation of health care services and implementation of national health programmes.

c). **INTEGRATION ;**

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

CLINICAL SUBJECTS OF PHASE II & PHASE 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 should be emphasised in all clinical subject areas. Instructions in clinical subjects should be given both in out patient and in-patient during clinical posting.

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 approach will be emphasised based on basic social sciences and a continuation of clinical and laboratory syllabi to optimally understand and manage each clinical condition.

The course shall comprise of:

(1) **MEDICINE & ITS ALLIED SPECIALITIES;**

(A) **MEDICINE:**

i) **GOAL:**

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

ii) **OBJECTIVES**

(a) **KNOWLEDGE**

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

(1) diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, tropical and environmental diseases.

(2) outline various modes of management including drug therapeutics especially dosage, side effects, toxicity, interactions, indications and contra-indications.

(3) propose diagnostic and investigative procedures and ability to interpret them.

(4) provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required.

(5) recognize geriatric disorders and their management.

b. **SKILLS;**

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

(1) develop clinical skills (history taking, clinical examination and other instruments of examination) to diagnose various common medical disorders and emergencies.

(2) refer a patient to secondary and/or tertiary level of health care after having instituted primary care.

(3) perform simple routine investigations like haemogram, stool, urine, sputum and biological fluid examinations.

(4) assist the common bedside investigative procedures like pleural tap, lumbar puncture, bone marrow aspiration/biopsy and liver biopsy.

c. **INTEGRATION;**

(1) with community medicine and physical medicine and rehabilitation to have the knowledge and be able to manage important current national health programs, also to be able to view the patient in his/her total physical, social and economic milieu.

(2) with other relevant academic inputs which provide scientific basis of clinical medicine e.g. anatomy, physiology, biochemistry, microbiology, pathology and pharmacology.

(B) **PEDIATRICS**

Pediatrics including Neonatology

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

i) **GOAL**

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

ii) **OBJECTIVES**

a. **KNOWLEDGE**

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

(1) describe the normal growth and development during foetal life, neonatal period, childhood and adolescence and outline deviations thereof.

(2) describe the common paediatric disorders and emergencies in terms of epidemiology, etiopathogenesis, clinical manifestations, diagnosis, rational therapy and rehabilitation.

(3) state age related requirements of calories, nutrients, fluids, drugs etc. in health and disease.

(4) describe preventive strategies for common infectious disorders, malnutrition, genetic and metabolic disorders, poisonings, accidents and child abuse.

(5) outline national programmes relating to child health including immunisation programmes.

b. **SKILLS**

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

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

(2) take anthropometric measurements, resuscitate newborn 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.

(3) conduct diagnostic procedures such as lumbar puncture, liver and kidney biopsy, bone marrow aspiration, pleural tap and ascitic tap.

(4) distinguish between normal newborn 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.

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

(c). **INTEGRATION**

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

(C) PSYCHIATRY

i) 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.

ii) OBJECTIVES

a. KNOWLEDGE

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

(1) comprehend nature and development of different aspects of normal human Behaviour like learning, memory, motivation, personality and intelligence;

(2) recognize differences between normal and abnormal behaviour;

(3) classify psychiatric disorders;

(4) recognize clinical manifestations of the following common syndromes and plan their appropriate management of organic psychosis, functional psychosis, schizophrenia, affective disorders, neurotic disorders, personality disorders, psychophysiological disorders, drug and alcohol dependence, psychiatric disorders of childhood and adolescence;

(5) describe rational use of different modes of therapy in psychiatric disorders.

b. SKILLS;

The student should be able to:

(1) interview the patient and understand different methods of communications in patient-doctor relationship;

(2) elicit detailed psychiatric case history and conduct clinical examination for assessment of mental status;

(3) define, elicit and interpret psycho-pathological symptoms and signs.

(4) diagnose and manage common psychiatric disorders;

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

c. INTEGRATION;

Training in Psychiatry should prepare the students to deliver preventive, promotive, curative and re-habilitative services for the care of patients both in the family and community and to refer advance cases to a specialised

Psychiatry/Mental Hospital. Training should be integrated with the departments of Medicine, Neuro Anatomy, Behavioral Sciences and Forensic medicine.

D DERMATOLOGY AND SEXUALLY TRANSMITTED DISEASES

I) 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.

ii) OBJECTIVES:

a. KNOWLEDGE:

At the end of the course of Dermato-S.T.D. and Leprology, the student Shall be able to:

1. demonstrate sound knowledge of common skin diseases, their clinical manifestations, including emergent situations and of investigative procedures to confirm their diagnosis:
2. demonstrate comprehensive knowledge of various modes of therapy used in treatment of skin & venereal diseases.
3. describe the mode of action of commonly used drugs, their doses, side-effects/toxicity, indications and contra-indications and interactions;
4. describe commonly used modes of management including 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:

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

(E) **TUBERCULOSIS AND RESPIRATORY DISEASES :**

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

(i) **OBJECTIVES:**

(a) Knowledge

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

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

(2) Demonstrate comprehensive knowledge of various modes of therapy used in treatment of respiratory diseases;

(3) Describe the mode of action of commonly used drugs, their doses, side-effects/toxicity, indications and contra-indications and interactions;

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

(b) The student shall be able to :

(1) interview the patient, elicit relevant and correct information and describe the history in chronological order;

(2) conduct clinical examination, elicit and interpret clinical findings and diagnose common respiratory disorders and emergencies;

(3) perform simple, routine investigative and office procedures required for making the bed side diagnosis, especially sputum collection and examination for etiologic organisms especially Acid Fast Bacilli (AFB), interpretation of the chest x-ray and respiratory function test;

(4) interpret and manage various blood gases and PH abnormalities in various respiratory diseases.

(5) Manage common diseases recognizing need for referral for specialized care, incase of inappropriateness of therapeutic response;

6. assist in the performance of common procedures, like laryngoscopic examination, pleural aspiration, respiratory physiotherapy, laryngeal intubation and pneumo-thoracic drainage/aspiration.

c. **INTEGRATION:**

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

(2) **SURGERY & ITS ALLIED SPECIALITIES**

(A) **SURGERY** - including Paediatric Surgery:

i) **GOAL:**

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

ii) **OBJECTIVES:**

a. **KNOWLEDGE:**

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

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

b. **SKILLS:**

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

1. diagnose common surgical conditions both acute and chronic, in adult and children.
2. plan various laboratory tests for surgical conditions and interpret the results.
3. identify and manage patients of hemorrhagic, septicaemic and other types of shock.
4. be able to maintain patent air-way and resuscitate

i) a critically injured patient

ii) patient with cardio-respiratory failure

iii) a drowning case

5. monitor patients of head, chest, spinal and abdominal injuries, both in adults and children.
6. provide primary care for a patient of burns.
7. acquire principles of operative surgery, including pre-operative, operative and post operative care and monitoring.
8. treat open wounds including preventive measures against tetanus and gas gangrene.
9. diagnose neonatal and pediatric surgical emergencies and provide sound primary care before referring the patient to secondary/tertiary centres.
10. identify congenital anomalies and refer them for appropriate management.

In addition to these he should have observed/assisted/ performed the following:

1. Incision and drainage of abscess
2. Debridement and suturing open wound
3. Venesection
4. Excision of simple cyst and tumours
5. Biopsy of surface malignancy
6. Catheterisation and nasogastric intubation
7. Circumcision
8. Meatotomy
9. Vasectomy
10. Peritoneal and pleural aspirations
11. Diagnostic proctoscopy
12. Hydrocele operation
13. Endotracheal intubation
14. Tracheostomy and cricothyroidotomy
15. Chest tube insertion.

(c). **INTEGRATION:**

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

B. **ORTHOPEDICS:**

a. **KNOWLEDGE:**

The student should be able to:

1. explain the principles of recognition of bone injuries and dislocation.
2. apply suitable methods to detect and manage common infections of bones and joints.

3. identify congenital, skeletal anomalies and their referral for appropriate correction or rehabilitation.
4. recognize metabolic bone diseases as seen in this country.
5. explain etiogenesis, manifestations, diagnosis of neoplasm affecting bones.

b. **SKILLS**

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

1. Detect sprains and deliver first aid measures for common fractures and sprains and manage uncomplicated fractures of clavicle, Colles's, forearm, phallanges etc.
2. Techniques of splinting, plaster, immobilization etc.
3. Management of common bone infections, learn indications for sequestration, amputations and corrective measures for bone deformities.
4. Aspects of rehabilitation for Polio, Cerebral Palsy and Amputation.

c. **APPLICATION:**

Be able to perform certain orthopedic skills, provide sound advise of skeletal and related conditions at primary or secondary health care level.

d. **INTEGRATION:**

Integration with anatomy, surgery, pathology, radiology and Forensic Medicine be done.

C. **RADIO-DIAGNOSIS AND RADIOTHERAPY**

A **RADIODIAGNOSIS & IMAGING:**

i) **GOAL:**

The broad goal of teaching the undergraduate medical students in the field of Radio-diagnosis 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.

ii) **OBJECTIVES**

a. **KNOWLEDGE:**

The student should be able to:

1. understand basics of X-ray production, its uses and hazards.
2. appreciate and diagnose changes in bones - like fractures, infections, tumours and metabolic bone diseases.
3. identify and diagnose various radiological changes in disease conditions of chest and mediastinum, skeletal system, G.I. Tract, Hepatobiliary system and G.U. system.

4. 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:

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

B **RADIOTHERAPY**

i) **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.

ii) **OBJECTIVES**

a. **KNOWLEDGE:**

The students should be able to:

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

b. **SKILL:**

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

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

(3) **OTO-RHINO-LARYNGOLOGY**

i) **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.

ii) **OBJECTIVES**

a. **KNOWLEDGE**

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

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

b. **SKILLS**

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

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

c. **INTEGRATION:**

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

4. **OPHTHALMOLOGY**

i) **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.

ii) **OBJECTIVES**

a. **KNOWLEDGE**

At the end of the course, the student should have knowledge of:

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

b. **SKILLS:**

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

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

c. **INTEGRATION**

The undergraduate training in Ophthalmology will provide an integrated approach towards other disciplines especially neurosciences, Otorhino-laryngology, General Surgery and Medicine.

OBSTETRICS AND GYNAECOLOGY

Obstetrics and Gynecology to include family welfare and family planning.

i) **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.

ii) **OBJECTIVES**

a. **KNOWLEDGE**

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

1. Outline the anatomy, physiology and pathophysiology of the reproductive system and the common conditions affecting it.
2. detect normal pregnancy, labour puerperium and manage the problems he/she is likely to encounter therein.
3. list the leading causes of maternal and perinatal morbidity and mortality.
4. understand the principles of contraception and various techniques employed, methods of medical termination of pregnancy, sterilisation and their complications.
5. identify the use, abuse and side effects of drugs in pregnancy, pre-menopausal and post-menopausal periods.
6. describe the national programme of maternal and child health and family welfare and their implementation at various levels.
7. identify common gynaecological diseases and describe principles of their management.
8. state the indications, techniques and complications of surgeries like 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:

1. examine a pregnant woman; recognise high risk pregnancies and make appropriate referrals.

2. conduct a normal delivery, recognise complications and provide postnatal care.
3. resuscitate the newborn and recognise congenital anomalies.
4. advise a couple on the use of various available contraceptive devices and assist in insertion in and removal of intra-uterine contraceptive devices.
5. perform pelvic examination, diagnose and manage common gynaecological problems including early detection of genital malignancies.
6. make a vaginal cytological smear, perform a post coital test and wet vaginal smear examination for Trichomonas vaginalis, moniliasis and gram stain for gonorrhoea.
7. interpretation of data of investigations like biochemical, histopathological, radiological, ultrasound etc.

c. **INTEGRATION:**

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

d. **GENERAL GUIDELINES FOR TRAINING:**

1. attendance of a maternity hospital or the maternity wards of a general hospital including (i) antenatal care (ii) the management of the puerperium and (iii) a minimum period of 5 months in-patient and out-patient training including family planning.
2. of this period of clinical instruction, not less than one month shall be spent as a resident pupil in a maternity ward of a general hospital.
3. during this period, the student shall conduct at least 10 cases of labour under adequate supervision and assist in 10 other cases.
4. a certificate showing the number of cases of labour attended by the student in the maternity hospital and/or patient homes respectively, should be signed by a responsible medical officer on the staff of the hospital and should state:

(a) that the student has been present during the course of labour and personally conducted each case, making the necessary abdominal and other examinations under the supervision of the certifying officer who should describe his official position.

(b) that satisfactory written histories of the cases conducted including wherever possible antenatal and postnatal observations, were presented by the student and initialed by the supervising officer.

5. **FAMILY PLANNING:**

Training in Family Planning should be emphasized in all the three phases and during internship as per guideline provided in Appendix A.

6. **COMMUNITY MEDICINE**

The teaching and training of community medicine will continue during the first two semesters of phase III (clinical Phase). The goals, objectives and skills to be acquired by the student has already been outlined in Phase II(Para Clinical Phase).

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 his study for the subjects comprising the medical curriculum to the date of completion of examination and followed by one year compulsory rotating internship. Each semester will consist of approximately 120 teaching days of 8 hours each of college working time, including one hour of lunch.

1. The period of 4 1//2 years is divided into three phases as follows:-

(a) **Phase-1** (two semesters) – consisting of Pre-clinical subjects (Human Anatomy, Physiology including Bio-Physics, Biochemistry and introduction to Community Medicine including Humanities). Besides 60 hours for introduction to Community Medicine including Humanities, rest of the time shall be somewhat equally divided between Anatomy and Physiology plus Biochemistry combined (Physiology 2/3 and Biochemistry 1/3)

(b) **Phase-II** (3 semester) – consisting of para – clinical/clinical subjects.

During this phase teaching of para-clinical and clinical subjects shall be done concurrently.

The para-clinical subjects shall consist of Pathology, Pharmacology, Microbiology, Forensic Medicine including Toxicology and part of Community Medicine.

The clinical subjects shall consist of all these detailed below in Phase III.

- Out of the time for Para-clinical teaching approximately equal time be allotted to Pathology, Pharmacology, Microbiology and Forensic Medicine and Community Medicine combined (1/3 Forensic Medicine and 2/3 Community Medicine).

(c) **Phase-III** (continuation of study of clinical subjects for seven semesters after passing Phase-1)

The clinical subjects to be taught during Phase II and III are Medicine and its allied specialties, Surgery and its allied specialties, Obstetrics and Gynaecology and

Community Medicine.

Besides clinical posting as per schedule mentioned herewith, rest of the teaching hours be divided for didactic lectures, demonstrations, seminars, group discussions, etc. in various subjects.

The Medicine and its allied specialties training will include General Medicine, Pediatrics, Tuberculosis and Chest, Skin and Sexually Transmitted Diseases, Psychiatry, Radio-diagnosis, Infectious diseases etc. The Surgery and its allied specialties training will include General Surgery, Orthopedics Surgery including Physiotherapy and Rehabilitation, Ophthalmology, Otorhinolaryngology, Anesthesia, Dentistry, Radio-therapy etc. The Obstetrics & Gynecology training will include family medicine, family welfare planning etc.

3. The first 2 semester (approximately 240 teaching days) shall be occupied in the Phase 1 (pre-clinical) subjects and introduction to a broader understanding of the perspectives of medical education leading to delivery of health care. No student shall be permitted to join the Phase II (Pare-clinical/clinical) group of subjects until he has passed in all the Phase 1 (Pre-clinical) subjects for which he will be permitted not more than four chances (actual examination), provided four chances are completed in three years from the date of enrollment.

4. After passing pre-clinical subjects, 1 ½ year (3 semesters) shall be devoted to para-clinical subjects.

Phase II will be devoted to para-clinical and clinical subjects, along with clinical posting. During clinical phase (Phase III) pre-clinical and para clinical teaching will be integrated into the teaching of clinical subjects where relevant.

5. Didactic lectures should not exceed one third of the time schedule; two third schedule should include practical, clinical or/and group discussions. Learning process should include living experiences, problem oriented approach, case studies and community health care activities.

6. Universities shall organize admission timings and admission process in such a way that teaching in first semester starts by 1st of August each year.

7. Supplementary examination may be conducted within 6 months so that the students who pass can join the main batch and the failed students will have to appear in the subsequent year.

Phase Distribution and Timing of Examinations:-

6 MONTHS	6 MONTHS	6 MONTHS	
1	2		1st professional Examination (during **Second semester)**
3	4	5	IInd Professional examination (during **fifth semester)**
6	7		IIIrd professional Part I (during **7th semester)**
8	9		IIIrd professional Part II (Final professional during **9th semester)**

Note :

a. Passing in 1st Professional is compulsory before proceeding to Phase II training.

b. A students who fails in the IInd professional examination, shall not be allowed to appear in IIIrd Professional Part-I examination unless he passes all subjects of IInd Professional examination.

c. Passing in IIIrd Professional (Part-I) examination is not compulsory before entering for 8th and 9th semester training, however passing of IIIrd Professional (Part-I) is compulsory for being eligible for IIIrd Professional (Part-II) examination.

During third to ninth semesters, clinical postings of three hours duration daily as specified in the Table is suggested for various departments, after Introductory Course in Clinical Methods in Medicine and Surgery of two weeks each for the whole class.

Subjects	3rd Semester (Wks)	4th Semester (Wks)	5th Semester (Wks)	6th Semester (Wks)	7th Semester (Wks)	8th Semester (Wks)	9th Semester (Wks)	Total (Wks)
General*** Medicine	6	-	4	-	4	6	6	26
Paediatrics	-	2	-	2	2	4	-	10
Tuberculosis And Chest Diseases	-	2	-	-	-	-	-	02
Skin & STD	-	2	-	2	-	2		06
Psychiatry	-	-	2	-	-	-	-	02
Radiology*	-	-	-	-	2	-	-	02
General **** Surgery	6	-	4	-	4	6	6	26
Orthopaedics**	-	-	4	4	-	-	2	10
Ophthalmology	-	4	-	4	-	-	2	10
Ear Nose And Throat	-	4	-	4				08
Obstetrics and Gynaecology***** including Family Welfare Planning	2	4	4	-	4	4	6	24
Community Medicine	4	4	-	4	-	-	-	12
Casualty	-	-	-	2	-	-	-	02
Dentistry	-	-	-	-	2	-	-	02
Total (in Weeks)	18	22	18	22	18	22	22	142

- Clinical methods in Medicine and Surgery for whole class will be for 2 weeks each respectively at the start of 3rd semester.

* This posting includes training in Radiodiagnosis and Radiotherapy where existant.

** This posting includes exposure to Rehabilitation and Physiotherapy.

*** This posting includes exposure to laboratory medicine and infectious diseases.

**** This posting includes exposure to dressing and Anesthesia.

***** This includes maternity training and Family medicine and the 3rd semester posting shall be in Family Welfare Planning.

CHAPTER – 4

Examination Regulations

Essentialities for qualifying to appear in professional examinations.

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

(1) **ATTENDANCE**

75% of attendance in a subject for appearing in the examination is compulsory provided he/she has 75% attendance in non lecture teaching. i.e. seminars, group discussions, tutorials, demonstrations, practicals, Hospital (Tertiary, Secondary, Primary) postings and bed side clinics, etc.

(2) Internal Assessment :

(i) It shall be based on day to day assessment (see note), evaluation of student assignment, preparation for seminar, clinical case presentation etc.:

(ii) Regular periodical examinations shall be conducted throughout the course. The questions of number of examinations is left to the institution:

(iii) Day to day records should be given importance during internal assessment :

(iv) Weightage for the internal assessment shall be 20% of the total marks in each subject :

(v) 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.

Note: Internal assessment shall relate to different ways in which students participation in learning participation in learning process during semesters in evaluated. Some examples are as follows:

(i) Preparation of subject for students seminar.

(ii) Preparation of a clinical case for discussion.

(iii) Clinical case study/problem solving exercise.

(iv) Participation in Project for health care in the community (planning stage to evaluation).

UNIVERSITY EXAMINATIONS :

Theory papers will be prepared by the examiners as prescribed. Nature of questions will be short answer type/objective type and marks for each part indicated separately.

Practicals/clinicals will be conducted in the laboratories or hospital wards. Objective will be assess proficiency in skills, conduct of experiment, interpretation of data and logical conclusion. Clinical cases should preferably include common diseases not esoteric syndromes or rare disorders. 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.

The examinations are to be designed with a view to ascertain whether the candidate has acquired the necessary for knowledge, minimum skills alongwith clear concepts of the fundamentals which are necessary for him to carry out his professional day to day work competently. Evaluation will be carried out on an objective basis.

Question papers should preferably be of short structure/objective type.

Clinical cases/practicals shall take into account common diseases which the student is likely to come in contact in practice. Rare cases/obscure syndromes, long cases of neurology shall not be put for final examination.

During evaluation (both Internal and External) it shall be ascertained if the candidate has acquired the skills as detailed in Appendix-B.

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

First Professional:-

In the second Semester of Phase 1 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, Pharmacy and Forensic Medicine.

Third Profesional :-

Part1 - in the Seventh Semester of Phase III, in the subjects of Ophthamology, Oto-rhino-laryngology and Community Medicine.

Third Professional :-

Part II - (Final Professional) – At the end of Phase III training in the subjects of Medicine, Surgery, Obstetrics & Gynecology and Pediatrics.

Note: Results of all university examinations shall be declared before the start of teaching for next semester.

(4) **DISTRIBUTION OF MARKS TO VARIOUS DISCIPLINES :**

(A) First Professional examination:(Pre-clinical Subjects):-

(a) Anatomy:

Theory-Two papers of 50 marks each

(One applied question of 10 marks in each paper) 100 marks.

Oral(Viva)	20 marks
Practical	40 marks
Internal Assessment (Theory-20; Practical-20)	40 marks
Total	200 marks

(b) Physiology including Biophysics

Theory-Two papers of 50 marks each

(One applied question of 10 marks in each paper) 100 marks

Oral (Viva)	20 marks
Practical	40 marks
Internal Assessment (Theory-20; Practical-20)	40 marks
Total	200 marks

(c) **Biochemistry :**

Theory-Two papers of 50 marks each
(One applied question of 10 marks in each paper) 100 marks
Oral (Viva) 20 marks
Practical 40 marks
Internal Assessment
(Theory-20; Practical-20) 40 marks
Total 200 marks

Pass: In each of the subjects, a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in Practicals.

(A) SECOND PROFESSIONAL EXAMINATION;

(Para-clinical subjects) :

(a) **Pathology :**

Theory-Two papers of 40 marks each
(One applied question of 10 marks in each paper) 80 marks
Oral (Viva) 15 marks
Practical 25 marks
Internal assessment
(Theory-15; Practical-15) 30 marks
Total 150 marks

(b) **Microbiology :**

Theory-Two papers of 40 marks each
(One applied question of 10 marks in each paper) 80 marks
Oral (Viva) 15 marks
Practical
Internal assessment
(Theory-15; Practical-15) 30 marks
Total 150 marks

(c) **Pharmacology :**

Theory-Two papers of 40 marks each
Containing one question on clinical the rapeuics 80 marks
Oral (Viva) 15 marks
Practical 25 marks
Internal assessment

(Theory-15; Practical-15) 30 marks

Total 150 marks

(d) **Forensic Medicine :**

Theory-one paper 40 marks

Oral (Viva) 10 marks

Practical/Clinical 30 marks

Internal assessment

(Theory-10; Practical-10) 20 marks

Total 100 marks

Pass : In each of the subjects, a candidate must obtain 50 % in aggregate with a minimum of 50% in Theory including oral and minimum of 50% in Practicals/clinicals.

(d) THIRD PROFESSIONAL

(i) PART 1

(Clinical subjects)

Part 1: To be conducted during end period of seventh semester..

(a) **Ophthalmology:**

Theory : One paper 40 marks

(should contain one question on pre-clinical and para-clinical aspects, of 10 marks)

Oral (Viva) 10 marks

Clinical 30 marks

Internal assessment 20 marks

(Theory-10; Practical-10)

Total 100 marks

(b) **Oto-Rhino-Laryngology :**

Theory: One paper 40 marks

(should contain one question on pre-clinical and para-clinical aspects, of 10 marks)

Oral(Viva) 10 marks

Clinical 30 marks

Internal assessment 20 marks

(Theory –10 Practical-10)

Total 100 marks

(c) **Community Medicine including Humanities:**

Theory : Two papers of 60 marks each 120 marks

(includes problem solving, applied aspects of management at primary level including essential drugs, occupational (agro based) diseases, rehabilitation and social aspects of community).

Oral (Viva)	10 marks
Practical/Project evaluation	30 marks
Internal assessment	40 marks
(Theory -20; Practical-20)	
Total	200 marks

Pass: In each of the subjects a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in practicals/clinicals.

PART-II

Each paper shall have two sections. Questions requiring essay type answers may be avoided.

(a) **Medicine :**

Theory- Two papers of 60 marks each 120 marks

Paper 1- General Medicine

Paper II- General Medicine (including Psychiatry, Dermatology and S.T.D.)

(Shall contain one question on basic sciences and allied subjects)

Oral (Viva) Interpretation of X-ray ECG, etc. 20 marks

Clinical (Bed side)	100 marks
Internal assessment	60 marks
(Theory-30; Practical-30)	
Total	300 marks

(b) **Surgery:**

Theory-Two papers of 60 marks each 120 marks

Paper-1-General Surgery (Section 1)

Orthopaedics (Section 2)

PAPER II-General Surgery including

Anaesthesiology, Dental diseases and Radiology.

(shall contain one question on basic sciences and allied subjects)

Oral (Viva) Interpretation of Investigative data	20 marks
Clinical (Bed Side)	100 marks
Internal assessment	60 marks
(Theory-30; Practical-30)	60 marks
Total	300 marks

Paper 1 of Surgery shall have one section in Orthopaedics. The questions on Orthopaedic Surgery be set and assessed by examiners who are teachers in the Orthopaedic surgery.

(c) **Obstetrics and Gynaecology**

Theory Two papers of 40 marks each	80 marks
Paper I- Obstetrics including social obstetrics.	
Paper II – Gynaecology, Family Welfare and Demography	
(Shall contain one question on basic sciences and allied subjects)	
Oral (Viva) including record of delivery cases (20+10)	30 marks
Clinical	30 marks
Internal assessment	60 marks
(Theory-30; Practical-30)	
Total	200 marks

(d) **Pediatrics : (Including Neonatology)**

Theory : One paper	40 marks
(Shall contain one question on basic sciences and allied subjects)	
Oral (Viva)	10 marks
Clinical	30 marks
Internal assessment	20 marks
(Theory-10; Practical-10)	
Total	100 marks

Pass : In each of the subjects a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in Practicals/clinicals.

13 **APPOINTMENT OF EXAMINERS:**

(1) No person shall be appointed as an examiner in any of the subjects of the Professional examination leading to and including the final Professional examinations for the award of the MBBS degree unless he has taken atleast five years previously, a doctorate degree of a recognized university or an equivalent qualification in the particular subject as per recommendation of the Council on teachers' eligibility

qualifications and has had at least five years of total teaching experience in the subject concerned in a college affiliated to a recognized university at a faculty position.

(2) There shall be at least four examiners for 100 students, out of whom not less than 50% must be external examiners. Of the four examiners, the senior most internal examiner will act as the Chairman and co-ordinator of the whole examination programme so that uniformity in the matter of assessment of candidates is maintained. Where candidates appearing are more than 100, one additional examiner, for every additional 50 or part thereof candidates appearing, be appointed.

(3) Non medical scientists engaged in the teaching of medical students as whole time teachers, may be appointed examiners in their concerned subjects provided they possess requisite doctorate qualifications and five year teaching experience of medical students after obtaining their postgraduate qualifications. Provided further that the 50% of the examiners (Internal & External) are from the medical qualification stream.

(4) External examiners shall not be from the same university and preferably be from outside the state..

(5) The internal examiner in a subject shall not accept external examinership for a college from which external examiner is appointed in his subject.

(6) A university having more than one college shall have separate sets of examiners for each college, with internal examiners from the concerned college.

(7) External examiners shall rotate at an interval of 2 years.

(8) There shall be a Chairman of the Board of paper-setters who shall be an internal examiner and shall moderate the questions.

(9) Except Head of the department of subject concerned in a college/institution, all other with the rank of reader or equivalent and above with requisite qualifications and experience shall be appointed internal examiners by rotation in their subjects; provided that where there are no posts of readers, then an Assistant Professor of 5 years standing as Assistant Professor may be considered for appointment as examiner.

(10) The grace marks up to a maximum of five marks may be awarded at the discretion of the University to a student who has failed only in one subject but has passed in all other subjects.

CHAPTER – 5
INTERNSHIP

The Internship programme shall be regulated as per the guidelines of MCI as follows:

(1) 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.

(2) SPECIFIC OBJECTIVES

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

i. diagnose clinical common disease conditions encountered in practice and make timely decision for referral to higher level;

ii. use discreetly the essential drugs, infusions, blood or its substitutes and laboratory services.

iii. Manage all type of emergencies-medical, surgical obstetric, neonatal and paediatric, by rendering first level care;

iv. Demonstrate skills in monitoring of the National Health Programme 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-ecomic, political and cultural environment;

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

(3) 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 skill 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 intern's opportunities to practice skills in patient care in rough approximation of the time allocation suggested.

(4) INTERNSHIP – TIME DISTRIBUTION

COMPULSORY :—

1.	Community Medicine	2 Months
2.	Medicine including 15 days of Psychiatry	2 Months
3.	Surgery including 15 days of Anaesthesia	2 Months
4.	Obstetrics & Gynaecology including Family Welfare Planning.	2 Months
5.	Orthopaedics including PMR	1 Month
6.	Pediatrics	1 Month
7.	E.N.T.	15 Days
8.	Ophthalmology	15 Days
9.	Casualty	15 Days

Elective Posting : (15 Days)

(Any One Subject)

1.	Dermatology & Sexually Transmitted Diseases	15 Days
2.	Tuberculosis & Respiratory Diseases	15 Days
3.	Radiodiagnosis	15 Days
4.	Forensic Medicine	15 Days
5.	Blood Bank	15 Days
6.	Psychiatry	15 Days

OTHER DETAILS:

i) Internship in Chatrapati Shivaji subharti Hospital (CSSH) is compulsory. In exceptional circumstances permission may be granted for doing internship at another institutionas per the rules and regulations laid down by MCI as follows:

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

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

iv) Provisional registration by the state medical council is mandatory before the start of Internship.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.

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

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

vii) Provided that where an intern is posted to District/Sub Divisional Hospital for training. Such trainee shall obtain a certificate of satisfactory completion of training 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.

(6) **ASSESSMENT OF INTERNSHIP:**

i) The intern shall maintain a record of work which is to be verified and certified by the medical officer under whom he works. Apart from scrutiny of the record of work, assessment and evaluation of training shall be undertaken by an objective approach using situation tests in knowledge, skills and attitude during and at the end of 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.

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

1) Proficiency of knowledge required for each case

SCORE 0-5

(2) The competency in skills expected to manage each case:

a) Competency for performance of self performance,

b) of having assisted in procedures,

c) of having observed.

SCORE 0-5

(3) Responsibility, punctuality, work up of case, involvement in treatment, follow-up reports.

SCORE 0-5

(4) Capacity to work in a team (Behaviour with colleagues, nursing staff and relationship with paramedicals).

SCORE 0-5

(5) Initiative, participation in discussions, research aptitude.

SCORE 0-5

poor	Fair/	Below Average/	Average/	Above Average/	Excellent
0	1	2	3	4	5

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

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

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

Chapter – 6

Power to Modify

In the event of any emergent situation, if some deviation is considered necessary, the Vice–Chancellor is authorised to modify the ordinances. However, such modifications may subsequently be ratified by the Executive Council.