

PRE-CLINICAL SUBJECTS OF PHASE I

HAN1001. HUMAN ANATOMY (Total marks = 200, Total hours of teaching = 650)

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

1. Comprehends the normal disposition, clinically relevant interrelationships, functional and cross sectional anatomy of the various structures in the body.
2. 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.
3. 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.
4. Demonstrate knowledge of the basic principles and sequential development of the organs and systems, recognize 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

- (1) Identify and locate all the structures of the body and mark the topography of the living anatomy.

- (2) Identify the organs and tissues under the microscope.
- (3) Understand the principles of karyotyping and identify the gross congenital anomalies.
- (4) Understand principles of newer imaging techniques and interpretation of Computerised Tomography (CT) Scan, Sonogram etc.
- (5) 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.

HPH1002. HUMAN PHYSIOLOGY INCLUDING BIO-PHYSICS

(Total marks = 200, Total hours of teaching = 480)

(A) 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

- (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

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

TOPIC DISTRIBUTION

1. Lectures :

- (i) Physical principles of transport across cell membranes 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)

BIO1003. BIOCHEMISTRY (Total marks = 200, Total hours of teaching = 240)

Biochemistry including medical physics and Molecular Biology.

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.

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.

COM1004. COMMUNITY MEDICINE (Total hours of teaching = 60)

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 at least 15 visits of two hours each.

PARA CLINICAL SUBJECTS OF PHASE II

PAT2001. PATHOLOGY (Total marks = 150, Total hours of teaching = 300)

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

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.

MIC2002. MICROBIOLOGY(Total marks = 150, Total hours of teaching = 250)

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

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.

PHA2003. PHARMACOLOGY(Total marks = 150, Total hours of teaching = 300)

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

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 cautions in prescription of drugs in special medical situations such as pregnancy, lactation, infancy and old age
- 7. 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.

FOR2004. FORENSIC MEDICINE INCLUDING TOXICOLOGY

(Total marks = 100, Total hours of teaching = 100)

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

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.

COM2005. COMMUNITY MEDICINE (Total hours of teaching = 200)

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

- (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 levels 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 implementations 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 AND PHASE III

OPH3101. OPHTHALMOLOGY (Total marks = 100, Total hours of teaching = 100)

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

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, Schiottz 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 tarsorrhaphy
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.

OTO3102.OTO-RHINO-LARYNGOLOGY(ENT) (Total marks = 100, Total hours of teaching = 70)

GOAL

The broad goal of the teaching of undergraduate students in Otorhinolaryngology is that the undergraduate student has 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

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.

COM3103. COMMUNITY MEDICINE (Total marks = 200, Total hours of teaching = 50)

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).

MED32. MEDICINE & ITS ALLIED SPECIALITIES (Total marks = 300)

GME3201. GENERAL MEDICINE (Total hours of teaching = 300)

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.

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 disease.
- (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

PSY3202. PSYCHIATRY(Total hours of teaching = 20)

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

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

SKI3203. SKIN & SEXUALLY TRANSMITTED DISEASES (Total hours of teaching = 30)

GOAL

The aim of teaching the undergraduate student in Skin, 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 of Dermato-S.T.D. and Leprology, the student Shall be able to:

1. demonstrate sound knowledge of common diseases, their clinical manifestations, including emergent situations and of investigative procedures to confirm their diagnosis
2. demonstrate comprehensive knowledge of various modes of therapy used in treatment

of respiratory diseases

3. describe the mode of action of commonly used drugs, their doses, side-effects/toxicity, indications and contra-indications and interactions
4. describe commonly used modes of management including 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

TUB3204.TUBERCULOSIS AND RESPIRATORY DISEASES (Total hours of teaching = 20)

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.

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 disease

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

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

(b) skills

The student shall be able to

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

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

(3) perform simple, routine investigative and office procedures required for making the 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, in case of inappropriateness of therapeutic response

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

(c) integration

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

SUR32. SURGERY & ITS ALLIED SPECIALITIES (Total marks = 300)

GSU3205. GENERAL SURGERY (including Pediatric Surgery)

(Total hours of teaching = 300)

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

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, and 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. To 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.

ORT3206. ORTHOPEDICS (Total hours of teaching = 100)

(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 etiology, 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, phalanges etc.
2. Techniques of splinting, plaster, immobilization etc.
3. Management of common bone infections learns 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 advice of skeletal and related conditions at primary or secondary health care level.

(d) integration

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

RAD3208. RADIO-DIAGNOSIS AND RADIOTHERAPY(Total hours of teaching = 20)

A. RADIODIAGNOSIS & IMAGING:

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:

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

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.

OBS3210. OBSTETRICS AND GYNAECOLOGY (Total marks = 200, Total hours of teaching = 300)

(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

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

PED3211. PEDIATRICS (Total marks = 100, Total hours of teaching = 100)

(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.

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.

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.

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.

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-economic, 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

OTHER DETAILS

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

- iii) The University shall issue a provisional MBBS pass certificate on passing the final examination.
- iv) The State Medical Council will grant provisional registration to the candidate on production of the provisional MBBS pass certificate. The provisional registration will be for a period of one year. In the event of 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) In recognition of the importance of hands-on experience, full responsibility for patient care and skill acquisition, internship should be increasingly scheduled to utilize clinical facilities available in District Hospital, Taluka Hospital, Community Health Centre and Primary Health Centre, in addition to Teaching Hospital. A critical element of internship will be the acquisition of specific experiences and skill as listed in major areas:

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

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

- viii) Adjustment to enable a candidate to obtain training in elective clinical subjects may be made.
- ix) Each medical college shall establish links with one entire district extending out-reach activities. Similarly, Re-orientation of Medical Education (ROME) scheme may be suitably modified to assure teaching activities at each level of District health system which will be coordinated by Dean of the medical college;
- x) Out of one year, 6 months shall be devoted to learning tertiary care being rendered in teaching hospital/district hospital suitably staffed with well qualified staff, 3 months of secondary care in a small District or Taluka Hospital/Community Health Centre and 3 months in Primary Health care out of which 2 months should be in Primary Health Programme at the Community level. One month of primary care training may be in the form of preceptorship with a practicing family physician or voluntary agency or other primary health care provider.

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

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.

- (7) Full registration shall only be given by the State Medical Council/Medical Council of India on the award of the MBBS degree by the university or its declaration that the candidate is eligible for it.
- (8) Some guidelines in the implementation of the training programme are given below.

INTERNSHIP – DISCIPLINE RELATED

COM3103. COMMUNITY MEDICINE

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

(I) Community Health Centre/District Hospital/Attachment to General Practitioner:

- (1) During this period of internship an intern must acquire:-
- (a) clinical competence for diagnosis of common ailments, use of bed side investigation and primary care techniques
 - (b) gain information on 'Essential drugs' and their usage
 - (c) recognise medical emergencies, resuscitate and institute initial treatment and refer to suitable institution
- (2) Undergo specific Government of India/Ministry of Health and Family Welfare approved training using Government of India prescribed training manual for Medical Officers in all National Health Programmes (e.g. child survival and safe motherhood-EPI, CDD, ARI, FP, ANC, safe delivery, Tuberculosis, Leprosy and others as recommended by Ministry of Health and Family Welfare:-

- (a) gain full expertise in immunization against infectious disease
 - (b) participate in programmes in prevention and control of locally prevalent endemic diseases including nutritional disorders
 - (c) learn skills first hand in family welfare planning procedures
 - (d) learn the management of National Health Programmes
- (3) Be capable of conducting a survey and employ its findings as a measure towards arriving at a community diagnosis.
 - (4) (a) conduct programmes on health education
 - (b) gain capabilities to use Audiovisual aids
 - (c) acquire capability of utilization of scientific information for promotion of community health
 - (5) Be capable of establishing linkages with other agencies as water supply, food distribution and other environmental/social agencies
 - (6) Acquire quality of being professional with dedication, resourcefulness and leadership
 - (7) Acquire managerial skills, delegation of duties to paramedical staff and other health professionals

(II) Taluqa hospital:

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

- (1) effectively participate with other members of the health team with qualities of leadership
- (2) make a community diagnosis in specific situations such as epidemics and institute relevant control measures for communicable diseases
- (3) develop capability for analysis of hospital based morbidity and mortality statistics
- (4) use essential drugs in the community with the awareness of availability, cost and side effects
- (5) provide health education to an individual/community on :

- a) tuberculosis
- b) small family, spacing, use of appropriate contraceptives
- c) applied nutrition and care of mothers and children
- d) immunization
- e) participation in school health programme

(III) Primary health centre:

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

GME3201. GENERAL MEDICINE

1. Interns shall acquire following training during their term.
 - (a) acquire competence for clinical diagnosis based on history physical examination and relevant laboratory investigation and institute appropriate line of management
 - (b) this would include diseases common in tropics (parasitic, bacterial or viral infections, nutritional disorders, including dehydration and electrolyte disturbances) and system illnesses
2. The intern shall have assisted as a care team in intensive care of cardiac, respirator, hepatic, neurological and metabolic emergencies
3. The intern shall be able to conduct the following laboratory investigations:

- (a) Blood: (Routine haematology smear and blood groups)
 - (b) Urine: (Routine chemical and microscopic)
 - (c) Stool: (for ova/cyst and occult blood)
 - (d) Sputum and throat swab for gram stain or acid fast stain and
 - (e) Cerebro Spinal Fluid (CSF) for smear
- (4) Conduct following diagnostic procedures:
- (a) Urethral catheterisation
 - Proctoscopy
 - Ophthalmoscopy/Otoscopy
 - Indirect laryngoscopy
 - (b) therapeutic procedures
 - Insertion of Ryles Tube
 - Pleural, ascetic tap, Cerebro Spinal Fluid (CSF) tap, installing or air way tube, Oxygen administration etc.
- (5) Biopsy Procedures:
- Liver, Kidney, Skin, Nerve, Lymph node, and muscle biopsy, Bone marrow aspiration, Biopsy of Malignant lesions on surface, Nasal/nerve/skin smear for leprosy
- (6) (a) Familiarity with usage of life saving procedures: including use of aspirator, respirator and defibrillator
- (b) Competence in interpretation of different monitoring devices such as cardiac monitor, blood gas analysis etc.
- (7) Participate as a team member in total health care of an individual including appropriate follow-up and social rehabilitation
- (8) Other competencies as indicated in general objectives

GSU3205. GENERAL SURGERY

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

- (1) Diagnose with reasonable accuracy all surgical illnesses including emergencies
- (2) (a) resuscitate a critically injured patient and a severe burns patient
(b) control surface bleeding and manage open wound
- (3) (a) monitor patients of head, spine, chest abdominal and pelvic injury
(b) institute first-line management of acute abdomen
- (4) (a) perform venesection
(b) perform tracheostomy and endotracheal intubation
(c) catheterize patients with acute retention or perform trocar cystostomy
(d) drain superficial abscesses
(e) suturing of wound
(f) perform circumcision
(g) biopsy of surface tumors
(h) Perform vasectomy

CASUALTY

The intern after training in Casualty must be able to:

- (1) identify acute emergencies in various disciplines of medical practice
- (2) manage acute anaphylactic shock
- (3) manage peripheral-vascular failure and shock
- (4) manage acute pulmonary edema and Left Ventricular failure (LVF)
- (5) undertake emergency management of drowning poisonings and seizures
- (6) undertake emergency management of bronchial asthma and status asthmaticus

- (7) undertake emergency management of hyperpyrexia
- (8) undertake emergency management of comatose patients regarding airways positioning, prevention of aspiration and injuries
- (9) assess and administer emergency management of burns
- (10) assess and do emergency management of various trauma victims
- (11) identify medicolegal cases and learn filling up forms as well as complete other medicolegal formalities in cases of injury, poisoning, sexual offenses, intoxication and other unnatural conditions.

OBS3210. OBSTETRICS AND GYNAECOLOGY

Technical skills that interns are expected to learn:

- (1) diagnosis of early pregnancy and provision of ante-natal care
- (2) diagnosis of pathology of pregnancy related to
 - (a) abortions
 - (b) ectopic pregnancy
 - (c) tumours complicating pregnancy
 - (d) acute abdomen in early pregnancy
 - (e) hyperemesis gravidarum
- (3) detection of high risk pregnancy cases and suitable advise e.g. PIH, hydramanios, antepartum haemorrhage, multiple pregnancies, abnormal presentations and intra-uterine growth retardation
- (4) antenatal pelvic assessment and detection of cephalopelvic disproportion
- (5) induction of labour and amniotomy under supervision
- (6) management of normal labour, detection of abnormalities, post-partum hemorrhage and repair of perennial tears

- (7) assist in forceps delivery
- (8) assist in caesarean section and postoperative care thereof
- (9) detection and management of abnormalities of lactation
- (10) perform non-stress test during pregnancy
- (11) per speculum, per vaginum and per rectal examination for detection of common congenital, inflammatory, neoplastic and traumatic conditions of vulva, vagina, uterus and ovaries
- (12) medicolegal examination in Gynecology and obstetrics.
- (13) to perform the following procedures:-
 - (a) dilation and curettage and fractional curettage
 - (b) endometrial biopsy
 - (c) endometrial aspiration
 - (d) pap smear collection
 - (e) Intra Uterine Contraceptive Device (IUCD) insertion
 - (f) minilap ligation
 - (g) urethral catheterisation
 - (h) suture removal in postoperative cases
 - (i) cervical punch biopsy
- (14) to assist in major abdominal and vaginal surgery cases in Obstetrics and Gynaecology
- (15) to assist in follow-up postoperative cases of obstetrics and gynaecology such as:
 - (a) Colposcopy
 - (b) Second trimester Medical Termination of Pregnancy (MTP) procedures e.g. Emcredyl Prostaglandin instillations
- (16) to evaluate and prescribe oral contraceptive

PED3211. PEDIATRICS

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

The intern shall be able to

- (1) diagnose and manage common childhood disorders including neonatal disorders and acute emergencies(enquiry from parents of sick children), examining sick child making a record of information
- (2) carry out activities related to patient care such as laboratory work, investigative procedures and use of special equipments. The details are given as under:-
 - (a) diagnostic techniques: blood (including from femoral vein and umbilical cord), obscess, cerebrospinal fluid, urine, pleura and peritoneum and common tissue biopsy techniques
 - (b) techniques related to patient care: immunization, perfusion techniques, feeding procedures, tuberculin testing & breast feeding counselling
 - (c) use of equipment: vital monitoring, temperature monitoring, resuscitation at birth and care of children receiving intensive care
- (3) screening of newborn babies and those with objective risk factors for any anomalies and steps for prevention in future
- (4) plan in collaboration with parents and individual, collective surveillance of growth and development of new born babies, infants and children so that he/she is able to:
 - (a) recognise growth abnormalities
 - (b) recognise anomalies of psychomotor development
 - (c) detect congenital abnormalities
- (5) assess nutritional and dietary status of infants and children and organise prevention, detection and follow up of deficiency disorders both at individual and community level such as:
 - (a) protein-energy malnutrition

- (b) deficiencies of vitamins especially A, B, C and D
- (c) iron deficiency
- (6) institute early management of common childhood disorders with special reference to Paediatrics dosage and oral rehydration therapy
- (7) participate actively in public health programme oriented towards children in the community

OTO3102. OTO RHINO LARYNGOLOGY (ENT)

- (1) Interns shall acquire ability for a comprehensive diagnosis of common Ear, Nose and Throat (ENT) diseases including the emergencies and malignant neoplasma of the head and neck
- (2) he/she shall acquire skills in the use of head mirror, otoscope and indirect laryngoscopy and first line of management of common Ear Nose and Throat (ENT) problems
- (3) he/she shall be able to carry out minor surgical procedures such as:
 - (a) earsyringing antrum puncture and packing of the nose for epistaxis
 - (b) nasal douching and packing of the external canal
 - (c) remove the foreign bodies from the nose and ear
 - (d) observed or assisted in various endoscopic procedures and tracheostomy
- (4) an item shall have participated as a team member in the community diagnosis e.g. Chronic Suppurative Otitis Media (CSOM) and be aware of national programme on prevention of deafness
- (5) he/she shall possess knowledge of various ENT rehabilitative programmes

OPH3101. OPHTHALMOLOGY

An intern shall acquire following skills: -

- (1) he/she shall be able to diagnose and manage common ophthalmological conditions such as:-

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

(2) he shall be able to carry out assessment of refractive errors and advise its correction

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

(4) he/she shall be able to perform investigative procedures such as:-

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

(5) he/she shall have carried out or assisted the following procedures:

(a)Subconjunctival injection

(b)Ocular bandaging

(c)Removal of concretions

(d)Epilation and electrolysis

(e)Corneal foreign body removal

(f)Cauterization of corneal ulcers

(g)Chalazion removal

(h)Entropion correction

(i)Suturing conjunctival tears

(j)Lids repair

(k)Glaucoma surgery (assisted)

(l)Enucleation of eye in cadaver

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

ORT3206. ORTHOPAEDICS

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

(1) THERAPEUTIC - An intern must know:

- (a) Splinting (plaster slab) for the purpose of emergency splintage, definitive splintage and post operative splintage and application of Thomas splint
- (b) Manual reduction of common fractures – phalangeal, metacarpal, metatarsal and Colles's fracture
- (c) Manual reduction of common dislocations – interphalangeal, metacarpophalangeal, elbow and shoulder dislocations
- (d) Plaster cast application for undisplaced fractures of arm, fore arm, leg and ankle
- (e) Emergency care of a multiple injury patient
- (f) Precautions about transport and bed care of spinal cord injury patients

(2) Skill that an intern should be able to perform under supervision:

- (a) Advise about prognosis of poliomyelitis, cerebral palsy, CTEV and CDH
- (b) Advise about rehabilitation of amputees and mutilating traumatic and leprosy deformities of hand

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

- (a) drainage for acute osteomyelitis
- (b) sequestrectomy in chronic osteomyelitis
- (c) application of external fixation
- (d) internal fixation of fractures of long bones

SKI3203. SKIN AND S.T.D.

An intern must be able to: -

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

PSY3202. PSYCHIATRY

An Intern must be able to:

- (1) diagnose and manage common psychiatric disorders
- (2) identify and manage psychological reaction and psychiatric disorders in medical and surgical patients in clinical practice and community setting

TUB3204. TUBERCULOSIS AND RESPIRATORY DISEASES

An intern after training must be able to: -

- (1) conducting proper clinical examination, elicit and interpret clinical findings and diagnose common respiratory disorders and emergencies
- (2) perform simple, routine investigative procedures required for making bed side diagnosis, specially sputum collection, examination for etiological organism like AFB, interpretation of chest X-rays and respiratory function tests
- (3) interpret and manage various blood gases and pH abnormalities in various respiratory diseases
- (4) manage common diseases recognizing need for referral for specialized care in

case of inappropriateness of therapeutic response

- (5) perform common procedures like laryngoscopy, pleural aspiration, respiratory physiotherapy, laryngeal intubation and pneumo-thoracic drainage aspiration

ANA3207. ANAESTHESIA

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

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

RAD3208. RADIO-DIAGNOSIS

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

- (1) all aspects of 'Emergency Room' Radiology like –
 - (a) all acute abdominal conditions
 - (b) all acute traumatic conditions with emphasis on head injuries

- (c) differentiation between Medical and surgical radiological emergencies
- (2) Basic hazards and precautions in Radio-diagnostic practices

PHYSICAL MEDICINE AND REHABILITATION

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

- (1) competence for clinical diagnosis based on details history an assessment of common disabling conditions like poliomyelitis, cerebral palsy, hemiplegia, paraplegia, amputations etc
- (2) participation as a team member in total rehabilitation including appropriate follow up of common disabling conditions
- (3) principles and procedures of fabrication and repair of artificial limbs and appliances
- (4) various therapeutic modalities
- (5) use of self help devices and splints and mobility aids
- (6) familiarity with accessibility problems and home making for disabled
- (7) ability to demonstrate simple exercise therapy in common conditions like prevention of deformity in polio, stump exercise in an amputee etc.

FOR2004. FORENSIC MEDICINE INCLUDING TOXICOLOGY

The intern is to be posted in the casualty department of the hospital while attached under Forensic Medicine Department with the following objectives:

- (1) to identify medicolegal problem in a hospital and general practice
- (2) to identify and learn medicolegal responsibilities of a medical man in various hospital situations
- (3) to be able to diagnose and learn management of basic poisoning conditions in the community

- (4) to learn how to handle cases of sexual assault
- (5) to be able to prepare medico-legal reports in various medicolegal situations
- (6) to learn various medicolegal post-mortem procedures and formalities during its performance by police

APPENDIX 'A'

Curriculum in 'Family Welfare' for the Bachelor of Medicine and Bachelor of Surgery (MBBS) Course.

The Curriculum may be considered under various pre-clinical, para-clinical and clinical heads and the following details are worked out for each of the disciplines.

1. Anatomy

- (i) Gross and microscopic anatomy of the male and female generative organs
- (ii) The menstrual cycle
- (iii) Spermatogenesis and Oogenesis
- (iv) Fertilization of the ovum
- (v) Tissue and organ changes in the mother in pregnancy
- (vi) Embryology and Organogenesis
- (vii) Principles of Genetics
- (viii) Applied anatomy of mechanical methods of preventing conception
 - a) in female- chemical contraceptive, pessaries, Intra-Uterine Contraceptive Device (IUCD), tubectomy etc.
 - b) in male – condom, vasectomy etc.

2. Physiology

- (i) Physiology of reproduction
- (ii) Endocrines and regulations of reproduction in the female
- (iii) Endocrines and physiology of reproduction in the male
- (iv) Physiology and Endocrinology of pregnancy, parturition and lactation
- (v) Nutritional needs of mother and child during pregnancy and lactation
- (vi) The safe period-rhythm method of contraceptions
- (vii) Principles of use of oral contraceptive

3. Pharmacology

(i) Mode of action and administration of:

(a) Chemical contraceptive

(b) Oral contraceptive

(ii) Contra indication for administration of contraceptives

(iii) Toxic effects of contraceptives

4. Community Medicine

(i) The need for family welfare Planning

(ii) Organization of Family Welfare Planning service

(iii) Health Education in relating to Family Welfare Planning

(iv) Nutrition

(v) Psychological needs of the mother, the child and the family

(vi) Demography and vital Statistics

5. Obstetrics & Gynaecology

(i) Contraceptive methods in male/female.

(a) Mechanical

- Pessaries, Intra Uterine Contraceptive Device (IUCD), Condoms,
- Tubectomy and vasectomy

(b) Chemical

(c) Oral

(d) Rhythm Method

(ii) Demonstrations of use of Pessaries, IUCD, Condoms and technique of tubectomy

(iii) Advice on family planning to be imparted to parents

6. Pediatrics

(i) Problems of child health in relation to large family

(a) Organization of pediatric services.

(b) Nutritional problems of mother and child

(c) Childhood diseases due to overcrowding

7. Surgery

(i) Technique of Vasectomy

I. Compulsory Internship

Placement of a student for in-service training in a family welfare planning clinic for a period of at least one month.

II. Examination

It is necessary that questions on family welfare planning be introduced in the theory, practical and oral examination throughout the MBBS course.

The curriculum content has been indicated subjectwise. However, it would be more advantageous to the student for purpose of integrated learning and for understanding of the subject if family welfare planning instruction with the curriculum content indicated could be divided into two parts.

Part-I

Anatomy, Physiology, Biochemistry and Pharmacology

There shall be close integration in the teaching of these subjects. It is suggested that during the early para-clinical years, two to three weeks may be set apart for instruction in Family Welfare Planning relating to these subjects; so that the student gets an overall understanding of the principles and practice of "Family Planning" within the limited time available for covering all the subjects of the medical course. The method suggested would save time and repetition of essential facts.

Part-II

This includes the later para-clinical and clinical courses. The practical aspects of Family Welfare Planning methods should be emphasized. The program of instruction shall be supervised by the Department of Obstetrics and Gynaecology. The department of Community Medicine Internal Medicine, Psychiatry, Paediatrics and Surgery must be closely

associated in imparting instruction relating to the problems arising for want of family welfare planning and the advantages to society and the individual which will be gained by adopting the measures suggested.

Seminars:

The medical colleges shall organise occasional seminars in which staff from all departments and the in-service trainees shall participate.

APPENDIX 'B'

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

1. Clinical Evaluation

- (i) To be able to take a proper and detailed history
- (ii) To perform a complete and thorough physical examination and elicit clinical signs
- (iii) To be able to properly use the stethoscope, Blood Pressure, Apparatus Auroscope, Thermometer, Nasal Speculum, Tongue Depressor, Weighing Scales, Vaginal Speculum etc.
- (iv) To be able to perform internal examination-Per Rectum (PR), Per Vaginum (PV) etc.
- (v) To arrive at a proper provisional clinical diagnosis

2. Bed side Diagnostic Tests

- (i) To do and interpret Haemoglobin(HB), Total Count (TC), Erythrocytic Sedimentation Rate (ESR), Blood smear for parasites, Urine examination /albumin /sugar /ketones /microscopic
- (ii) Stool exam for ova and cysts
- (iii) Gram, staining and Siehl-Nielsen staining for AFB
- (iv) To do skin smear for lepra bacilli
- (v) To do and examine a wet film vaginal smear for Trichomonas
- (vi) To do a skin scraping and Potassium Hydroxide (KOH) stain for fungus infections
- (vii) To perform and read Montoux Test

3. Ability to Carry Out Procedures

- (i) To conduct CPR (Cardiopulmonary resuscitation) and First aid in newborns, children and adults

- (ii) To give Subcutaneous (SC) /Intramuscular (IM) /Intravenous (IV) injections and start Intravenous (IV) infusions
- (iii) To pass a Nasogastric tube and give gastric leavage.
- (iv) To administer oxygen-by masic/eatheter
- (v) To administer enema
- (vi) To pass a ruinary catheter- male and female
- (vii) To insert flatus tube
- (viii) To do pleural tap, Ascitic tap & lumbar puncture
- (ix) Insert intercostal tube to relieve tension pneumothorax
- (x) To control external Haemorrhage.

4. Anaesthetic Procedures

- (i) Administer local anaesthesia and nerve block
- (ii) Be able to secure airway potency, administer Oxygen by Ambu bag

5. Surgical Procedures

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

6. Mechanical Procedures

- (i) To perform thorough antenatal examination and identify high risk pregnancies
- (ii) To conduct a normal delivery
- (iii) To apply low forceps and perform and suture episiotomies
- (iv) To insert and remove IUD's and to perform tubectomy

7. Pediatrics

- (i) To assess new borns and recognise abnormalities and I.U. retardation
- (ii) To perform Immunization
- (iii) To teach infant feeding to mothers
- (iv) To monitor growth by the use of 'road to health chart' and to recognize development retardation
- (v) To assess dehydration and prepare and administer Oral Rehydration Therapy (ORT)
- (v) To recognize ARI clinically

8. ENT Procedures

- (i) To be able to remove foreign bodies
- (ii) To perform nasal packing for epistaxis
- (iii) To perform trachesotomy

9. Ophthalmic Procedures

- (i) To invert eye-lids
- (ii) To give Subconjunctival injection
- (iii) To perform appellation of eye-lashes
- (iv) To measure the refractive error and advise correctional glasses

(v) To perform nasolacrimal duct syringing for potency

10. Dental Procedures

(i) To perform dental extraction

11. Community Health

(i) To be able to supervise and motivate, community and para-professionals for corporate efforts for the health care

(ii) To be able to carry on managerial responsibilities, e.g. Management of stores, indenting and stock keeping and accounting

(iii) Planning and management of health camps

(iv) Implementation of national health programmes

(v) To effect proper sanitation measures in the community, e.g. disposal of infected garbage, chlorination of drinking water

(vi) To identify and institute and institute control measures for epidemics including its proper data collecting and reporting

12. Forensic Medicine Including Toxicology

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

(ii) To be able to conduct examination for sexual offences and intoxication

(iii) To be able to preserve relevant ancillary material for medico legal examination

(iv) To be able to identify important post-mortem findings in common un-natural deaths

13. Management of Emergency

- (i) To manage acute anaphylactic shock
- (ii) To manage peripheral vascular failure and shock
- (iii) To manage acute pulmonary oedema and LVF
- (iv) Emergency management of drowning, poisoning and seizures
- (v) Emergency management of bronchial asthma and status asthmaticus
- (vi) Emergency management of hyperpyrexia
- (vii) Emergency management of comatose patients regarding airways, positioning prevention of aspiration and injuries
- (viii) Assess and administer emergency management of burns