



**SGT UNIVERSITY**

**SHREE GURU GOBIND SINGH TRICENTENARY UNIVERSITY**  
**(UGC Approved)**

**Gurugram, Delhi-NCR**  
Budhera, Gurugram-Badli Road, Gurugram (Haryana) – 122505 Ph. : 0124-2278183, 2278184, 2278185

# **Faculty of Medicine & Health Sciences**

# **Program Outcomes (POs)/PSOs**

**Program Outcomes**

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

- PO 1. Know and comprehend the normal disposition, clinical, functional and cross section anatomy of the various structures in the body.
- PO 2. Dissect and demonstrate various parts of adult human body
- PO 3. Interpret the anatomical basis of symptoms and signs of clinical conditions, diagnostic procedures and treatment modalities.
- PO 4. Describe the microanatomy including cytology of various structures of the human body and compare the knowledge of microstructure with function and interpret it accordingly.
- PO 5. Describe the developmental aspects of human body and interpret the developmental basis of various congenital anomalies and basic principles of genetics.
- PO 6. Describe the neuroanatomy in its entirety and interpret the Neuroanatomical basis of various clinical conditions.
- PO 7. Identify and locate all the structures of the body and mark the topography of the living anatomy. Understand the principles of newer imaging techniques like ultra sound, computerised tomography scan, interpretation of plain and contrast X – rays.

*Amil*  
Prof. & Head  
Department of Anatomy  
SGT Medical College Hospital & Research Institute  
SGT University, Budhera

NAA C

*Dean*  
Dean

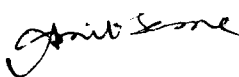
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

## MBBS: ANATOMY

### Program Specific Outcomes :

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

- PSO 1. Dissect , identify and locate all the structures of the body and mark the topography of the living anatomy.
- PSO 2. Demonstrate the features of all the bones of the body.
- PSO 3. Describe the neuroanatomy in its entirety and interpret the neuroanatomical basis of various clinical conditions.
- PSO 4. Interpret the anatomical basis of symptoms and signs of clinical Conditions, diagnostic procedures and treatment modalities.
- PSO 5. Discuss development of various organs of the body and its clinical correlation and associated common congenital anomalies.
- PSO 6. Identify and interpret the tissues under the microscope.
- PSO 7. Understand the principles of karyotyping , newer imaging techniques like ultra sound, computerised tomography scan, interpretation of plain and contrast x – rays.

  
Prof. & Head  
Department of Anatomy  
SGT Medical College Hospital & Research Institute  
SGT University, Budhera

NAA C

Dean

## **Programme Outcome ( Anaesthesia MBBS )**

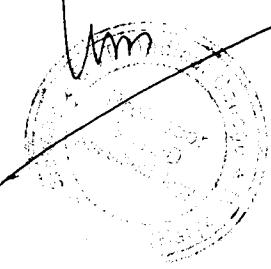
- PO1. Principles of acute medicine as it are practiced in managing the anesthetized patient in the operating room and in managing the patient in the recovery unit.
- PO2. Principles of resuscitation (cardiopulmonary, cerebral, fluid and others).
- PO3. Care of the unconscious patient, including airway and ventilation management.
- PO4. Management of blood, fluid, electrolyte balance, and metabolic disturbances in the surgical patient, with specific emphasis on those derangements which are encountered in the anesthetized patient.
- PO5 Management of acute and chronic pain problems.
- PO6. Concepts of drug interactions, especially as they apply to patients receiving anesthesia.
- PO7. Appropriate preoperative preparation of patients subjected to surgery and anesthesia.
- PO8. The various techniques of anesthesiology.
- PO9. Pharmacology of muscle relaxant, application and monitoring

**PROGRAMME SPECIFIC OUTCOME ( Anaesthesia MBBS )**

S. No	Topic	Domain	Hours
PSO1	Pre-anaesthesia assessment and preparation	<b>Must Know</b> 1. Pre operative preparation 2.NPO protocol 3.Pre-anaesthesia assessment	2 HOURS
PSO 2	Premedication	<b>Must Know</b> 1. Drugs used for Pre medication 2. Uses of Pre Medication	2 Hours
PSO 3	Oxygen therapy and devices	<b>Must Know</b> 1. Goals of oxygen therapy. 2.Evaluation of patients receiving oxygen therapy 3.Devices used for Oxygen Therapy	2 Hours

PSO4	Spinal and epidural anaesthesia	<b>Must Know</b> 1. Drugs used for spinal and epidural anaesthesia 2.Positions for spinal / epidural anesthesia 3. Monitoring and management of patient during spinal /epidural anaesthesia	2 Hours
PSO5	Local anaesthesia drugs and techniques	<b>Must Know</b> 1. Drugs used for local anaesthesia and their adverse effect and management. 2. Complication of Local Anesthetic drugs.	2 Hour

<b>PSO6</b>	General anaesthesia	<b>Must Know</b> 1.Introduction of general anaesthesia 2.Induction, intubation, maintenance 3. General Complication of GA	2 Hours
<b>PSO7</b>	Endotracheal intubation	<b>Must Know</b> 1.Description of plain and cuffed endotracheal tubes and their uses 2.Introduction of LMA and Ambu bag	2 Hours
<b>PSO8</b>	Care of unconscious patient.	<b>Must Know</b> 1.Causes of unconsciousness 2.Level of unconsciousness 3.Care of unconscious patient	2 Hours
<b>PSO9</b>	CPR and emergency drugs for resuscitation	<b>Must Know</b> 1. Introduction to CPR and Basic life support (ABC) and equipment for it. 2.Defibrillation	2 Hours
<b>PSO10</b>	Orientation to pain clinic, analgesics chronic pain and cancer pain management	<b>Desirable to know</b> 1.Pain Clinic 2.Analgesics 3. Chronic pain and their pain management.	2Hours

*Jam*  


6/2/2019

Department of Biochemistry  
Faculty of Medicine and Health Sciences  
SGT University Gurugram

Programme outcomes and specific Programme outcomes of Biochemistry for MBBS students.

**Program outcomes:**

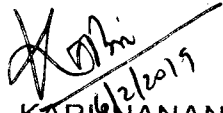
On successful completion of course, the student shall be able to:

- PO 1 Describe the structural and functional organization of a cell, sub cellular organelles, cell membrane and transport across the cell membrane.
- PO2 Describe the structure and function of various bio-molecules such as carbohydrates, proteins, lipid and nucleic acids and their role in health and disease.
- PO 3 Understand the fundamental aspects of enzymes and isoenzymes, their regulation and importance in health and disease.
- PO 4 Digestion and absorption of carbohydrates, proteins and lipids and their metabolism inside the body along with various associated disorders.
- PO 5 Explain/describe the synthesis of proteins, lipids, nucleic acids, and carbohydrates and their role in metabolic pathways along with their regulation at the epigenetic, transcriptional, translational, and post-translational levels including RNA and protein folding, modification, and degradation.
- PO 5 Correlate between various metabolic pathways and understand the integration of metabolism.
- PO 6 Understand the biochemical and genetic basis of various diseases.
- PO 7 Explain the molecular mechanisms of Replication, Transcription, Translation, gene expression, the principles of genetic engineering & their applications in medicine.
- PO 8 Understand the fundamental aspects of enzymology & clinical applications wherein regulation of enzymatic activity is altered.
- PO 9 Understand and apply the fundamentals of immunology and immunological markers in health and disease.
- PO 10 Understanding BMR, balanced nutrition and their disorders.
- PO 11 Correlate the role of vitamins and minerals in health and disease.
- PO 12 Understanding the balanced nutrition, fluid and electrolyte balance, acid base balance in health and disease.
- PO 13 Overview of the classification and mechanism of action of hormones.
- PO 14 Metabolism of heme and its associated disorders.
- PO 15 Understanding and application of various organ functions tests such as KFT, LFT, Lipid Profile, Pancreatic function tests and gastric function tests.

**Program Specific Outcomes:**

- PSO 1 Demonstrate the analytical knowledge and skills in solving the clinical problems and decision making in patient care.
- PSO2 Use of conventional techniques / instruments to perform various biochemical, immunological and molecular analysis relevant to clinical screening and diagnosis.
- PSO 3 Interpretation of various biochemical investigations in health and disease.
- PSO 4 Understanding of fundamental biochemical principles, structure and biological function of bio-molecules, metabolic pathways and their regulation.

- PSO 5** Apply the scientific method to the processes of experimentation and hypothesis testing.
- PSO 6** Ability to work as a laboratory supervisor, teacher or, biochemists or medical scientist.
- PSO 7** Quest to pursue higher education, such as a MD or PhD in the field of biochemistry.

  
6/2/2019  
**Dr. B. KARUNANAND**  
Professor & Head  
Department of Biochemistry  
Faculty of Medicine & Health Sciences  
SGT University  
Budhera-122505, Gurugram (Haryana)



## **Department of Community Medicine**

### **MBBS**

#### **Programme Outcome**

**PO1.** The student could be able to deal effectively with an individual & community in the context of primary health care.

**PO2.** The student shall gain clinical competence for diagnosis of common ailments at community level.

**PO3.** Adopt skills & participate in programmes in prevention and control of locally prevalent endemic diseases.

**PO4.** The students are able to conduct a survey and employ its findings as measure towards arriving at community diagnosis.

#### **Programme Specific Outcome**

**PSO1.** The student should be able to conduct health education session and acquire capability of utilization of scientific information for health promotion.

**PSO2.** The student should be able to recognize and manage common health problems in the community, use bed side investigation and primary care techniques. The student should also gain information on essential drugs and their usage.

**PSO3.** The students should be able to make community diagnosis in specific situation such as epidemics and institute relevant control measures for communicable diseases.



Dean

Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

## **Department of ENT**

### **MBBS**

#### **Programme outcome**

PO1. The student would be able to describe the basic pathophysiology of common ENT diseases and emergencies.

PO2. Adopt the rational use of commonly used drugs in ENT, keeping in mind their adverse reactions.

PO3. The student would familiarize himself with the common problems related to Ear, Nose & Throat.


PO4. The student should be competent enough to evaluate the symptoms, diagnose the disease and suggest and implement the treatment modalities to treat the common ENT conditions.

#### **Programme Specific Outcome**

PSO1. The student should be able to develop skills to perform minor ENT Procedures like otoscopy, wax removal, ear syringing, ear packing and anterior nasal packing.

PSO2. Should be able to recognise and manage common health problems of community related to ENT and manage ENT problems at the first level of care and be able to refer whenever necessary.

PSO3. If needed student should be able to assist in certain procedures such as tracheotomy, endoscopies and removal of ENT foreign bodies.

  
Dean  
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

**SGT university Gurugram**  
**Department of Forensic Medicine & Toxicology**

Programme Outcomes And Specific Programme Outcomes Forensic Medicine & Toxicology MBBS Students.

**Programme Outcomes (PO):-**

On successful completion of course the students shall be able to

- PO1.** Understand medical 'ethics and etiquette" - to be followed during the day to day practice of medicine.
- PO2.** Understand the legal procedures involved in medical practice and application of the knowledge of the medicolegal science for the purpose of ensuring justice in courts of law.
- PO3.** Understand value of giving evidence in the Court as medical witness in cases of unnatural death, sexual offences, poisoning, and other cases requiring medical opinion.
- PO4.** Determination of age of an individual: on the basis of inference's drawn from physical, dental and radiological findings.
- PO5.** Describe death, cause of death and issuing of death certificate" study of procedure of post-mortem examination and writing of post-mortem report.
- PO6.** Knowledge the type of injuries, type of weapon producing it and its medicolegal aspects such as simple, grievous, dangerous etc.
- PO7.** Understand the type of violent asphyxial death and can be able to differentiate between hanging and strangulation.
- PO8.** Understand the medicolegal aspects of virginity, pregnancy, delivery and Abortion-specially about criminal abortion and MTP act 1971.

1

NAA C  
S  
Dean.  
Dean

Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

**PO9.** To know about infant death ( infanticide ) and various types of crimes on children.

**PO10.** Describe the various types of sexual offences and by study of course , the students will be able to examine and prepare medicolegal report of victim and accused of sexual offences\_ specially of rape.

**PO11.** Describe the various types psychiatric problems of medicolegal importance with special reference to will ( testamentary capacity) and consent.

**PO12.** Knowledge of the types of poisons, treatment, antidots and post mortem examination of death in case of suspected poisoning and preservation and forwarding of viscera to FSL.

### **Programme Specific Outcomes (PSO)**

After completion of the course the students.( Doctors ) Will be able to

**PSO1.** Observe medical ethics in day to day practice.

**PSO2.** Able to appear as medical witness in court of law.

**PSO3.** Able to record dying declaration

**PSO4.** Can issue valid certificates such as-

- a. Age certificate
- b. Medical certificate of fitness
- c. Sickness fitness certificate
- d. Death certificate
- e. Mental fitness certificate

**PSO5.** Can perform post mortem examination and prepare the PM report.

**PSO6.** Prepare MLR ( Medicolegal report ) in injury cases and can issue opinion on examination of the weapon.


**POS7.** Issue medical examination report of victim or accessed of sexual offences.

**POS8.** Issue drunkenness certificate in case of examination on alcoholic.

**POS9.** Diagnose, treatment and preservation of evidences in poisoning cases.

**POS10.** Preserve medicolegal records safely and confidentially.

**POS11.** Quest to pursue higher education, such as a MD, PhD. or diploma in forensic medicine & toxicology.



Prof. & HOD  
Deptt. of Forensic Medicine  
Faculty of Medicine & Health Sciences  
SGT University  
Budhera, Gurgaon

**MBBS Program: General Surgery  
SGT College & Hospital**


**Programme Outcomes**

- P.O.1. Describe etiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and children.
- P.O.2. Define indications and methods for fluid and electrolyte replacement therapy including blood transfusion.
- P.O.3. Define asepsis, disinfection and sterilization and recommended judicious use of antibiotics.
- P.O.4. Describe common malignancies in the country and their management including prevention.
- P.O.5. Enumerate different types of anaesthetic agents, their indications, mode of administration, contraindications and side effects.
- P.O.6. Diagnose common surgical conditions both acute and chronic, in adult and children.
- P.O.7. Plan various laboratory tests for surgical conditions and interpret the results.
- P.O.8. Identify and manage patients of hemorrhagic, septicemic and other types of shock.
- P.O.9. Be able to maintain patent air-way and resuscitate i) a critically injured patient ii) patient with cardio-respiratory failure iii) a drowning case.
- P.O.10. Monitor patients of head, chest, spinal and abdominal injuries, both in adults and children. Provide primary care for a patient of burns.
- P.O.11. Acquire principles of operative surgery, including pre-operative, operative and post operative care and monitoring.
- P.O.12. Treat open wounds including preventive measures against tetanus and gas gangrene.
- P.O.13. Diagnose neonatal and pediatric surgical emergencies and provide sound primary care before referring the patient to secondary/tertiary centres.
- P.O.14. Identify congenital anomalies and refer them for appropriate management.
- P.O.15. Has acquired skill in effectively communicating with patient and his attendants.
- P.O.16. Has the desired surgical skill to independently operate on elective and emergency cases.
- P.O.17. Is aware of the latest developments in the field of surgery is oriented to principles of research methodology.
- P.O.18. Has acquired skills in educating medical and paramedical professionals

**Programme Specific Outcomes**

Once a student has finished his MBBS and passed his final examination, he is expected and should be capable of/ able to:

- P.S.O.1. Identifying a surgical emergency and give first aid, start resuscitation and inform a surgeon accordingly. If required, evacuate the patient in an optimal time to a surgical centre in a stable condition.

  
Dean  
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

- P.S.O.2. Giving advanced life support to Polytrauma patients.
- P.S.O.3. Assess burn patients and give first aid accordingly.
- P.S.O.4. Thoroughly examine the patient, diagnose and appropriately treat common surgical ailments which is need based, evidence based ethical and cost effective.
- P.S.O.5. Take a decision for relevant investigations and interpret them to inform the Surgeon on abnormal reports.
- P.S.O.6. Be a bridge between the nurse and the treating surgeon on pre and post operative care of the patient.
- P.S.O.7. Comprehend the disease and have the requisite soft skills to counsel and guide the attendants and patient's concern on the status of the treatment progress, likely complications and overall prognosis of the patient in tandem with the treating surgeon's mind.
- P.S.O.8. Organize and conduct relief measures during natural calamities and when mass casualties arrive. He should be also familiar with prioritization with triage.
- P.S.O.9. Discharge medico legal and ethical responsibilities.
- P.S.O.10. Participate in National Health Programmes.
- P.S.O.11. Write a proper case file and prepare a logical and systematic discharge summary.
- P.S.O.12. Issue correct Medical Certificates
- P.S.O.13. Appreciate patients' rights to privacy.
- P.S.O.14. well informed on written informed consents.
- P.S.O.15. adopt universal precautions against HIV and hepatitis.
- P.S.O.16. know the broad principles of sterilization
- P.S.O.17. know how CSSD and OT function
- P.S.O.18. be aware of blood and blood product transfusion and reactions
- P.S.O.19. Should be able do minor bed side procedures:
- P.S.O.20. establish IV fluids line including vene sections
- P.S.O.21. give injections: intradermal, subcutaneous, intra muscular and IV
- P.S.O.22. pass NG tube and Foley's catheter
- P.S.O.23. perform reduction of paraphimosis
- P.S.O.24. dressings of the wound
- P.S.O.25. wound debridement and primary suturing
- P.S.O.26. conduct CPR
- P.S.O.27. intubate a patient
- P.S.O.28. cricothyroidotomy
- P.S.O.29. insert a chest tube in pneumothorax
- P.S.O.30. pass a stomach tube for stomach lavage
- P.S.O.31. give enemas
- P.S.O.32. do PR Proctoscopy
- P.S.O.33. control external bleeding
- P.S.O.34. give local anaesthesia
- P.S.O.35. Perform minor operations
- P.S.O.36. drainage of abscesses
- P.S.O.37. remove corns and superficial swellings

**P.S.O.38** vasectomies and hydrocoele  
**P.S.O.39** reduce a paraphimosis  
**P.S.O.40** nasal packing in epistaxis



## **MBBS (Microbiology)**

Third, fourth and fifth semesters

### **Program outcome:**


At the end of one and half years of training, students should be able to-

- PO 1.** Understand commensal, opportunistic and pathogenic organisms of human body and describe host parasite relationship.
- PO 2.** Understand methods of disinfection and sterilization and their application to control and prevent hospital and community acquired infections including universal biosafety precautions and waste disposal.
- PO 3.** State the etiology, pathogenesis and methods of laboratory diagnosis of infections.
- PO 4.** Recommend laboratory investigations regarding bacteriological examination of water, milk and air.
- PO 5.** State the prevalent communicable diseases of national importance and of the newer emerging pathogens.

### **Program specific outcome:**

At the end of one and half years of training, students should be able to-

- PSO 1.** Plan and interpret laboratory investigations and correlate the laboratory findings with clinical manifestations in order to diagnose infectious diseases.
- PSO 2.** Identify common infectious agents with the help of laboratory procedures (Perform simple laboratory tests, which help to arrive at rapid diagnosis- staining and biochemical tests).
- PSO 3.** Be conversant with proper methods of collection, storage & transport of clinical material for microbiological investigations.,
- PSO 4.** To be able to interpret antimicrobial susceptibility tests and to apply the results of the test in the selection of suitable antimicrobial agents for treatment.
- PSO 5.** To be able to apply their understanding of the principles of immunology in the diagnosis and prevention of infectious diseases
- PSO 6.** To be able to identify ova, cyst, worms and other parasitic stages of parasites.
- PSO 7.** To be able to detect viral infections by using tissue culture and serological techniques in the laboratory.
- PSO 8.** To be able to identify fungi with the help of microscopy and culture characteristics.

  
Dean  
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram



Faculty of Medicine & Health Science  
Department of Orthopedics

---

**The Curriculum of orthopaedics is as under**

**Program outcomes (PO)**

- P.O.1.** To make the students aware of current concept in quality care in orthopaedics and musculoskeletal trauma and also of diagnosis, therapeutic, medical and surgical management of orthopaedics problems.
- P.O.2.** To make them aware of research methodology and be able to conduct research and publish the work done.

**Program specific outcomes (PSO)**

The student should be adapting in the following domains:

- P.S.O.1.** Skill to take a proper history for musculoskeletal disorders
- P.S.O.2.** Clinical examination of all musculoskeletal disorders.
- P.S.O.3.** Have an in-depth knowledge of the syllabus with emphasis on current concepts.
- P.S.O.4.** Basic knowledge of management of limbs and spinal injuries.
- P.S.O.5.** Basic knowledge of orthopaedic diseases like osteoporosis, osteoarthritis and congenital disorders.

Dean

Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram



**Faculty of Medicine & Health Sciences**  
**Department of Pathology**

SGT/MC/Path/No. 21/19

Date: 06.02.2019

To

The Dean  
FMHS, SGT University

**Subject:** MBBS Pathology PO & PSO

**Programme Outcomes (PO)**

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


- ❖ **PO 1** - The fundamental and basic principles of Pathogenesis of disease process and the effect that the disease produces on the various organ systems in the body.
- ❖ **PO 2** - To inculcate in the young minds the logical approach to diagnosis and interpretation of laboratory investigations.
- ❖ **PO 3** - To introduce newly discovered genes and molecules that have a profound impact on the pathogenesis of disease.
- ❖ **PO 4** - To facilitates the students to understand the various disease processes and to correlate morphological diagnostic pathology with immunologic cytogenetics and molecular analysis to assess prognosis and provide a basis for therapy.

**Programme specific outcomes (PSO)**

- ❖ **PSO 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.
- ❖ **PSO 2** - Understand the concepts of cell injury and changes produced thereby in different tissue and organs and the capacity of the human body for healing.
- ❖ **PSO 3** - Understand the normal homeostatic mechanisms, the derangements of these mechanisms and the effects on the human system
- ❖ **PSO 4** - Understand the etiopathogenesis, the pathological effects and the clinico-pathological correlation of common infectious and noninfectious diseases.
- ❖ **PSO 5** - Understand the concept of neoplasia with reference to the etiology, gross and microscopic features, diagnosis and prognosis in different tissues and organs of the body.
- ❖ **PSO 6** - Correlate normal and altered morphology (gross and microscopic) of different organ systems in different diseases to the extent needed for understanding of disease processes and their clinical significance.
- ❖ **PSO 7** - Have a knowledge of common immunological disorders and their resultant effects on the human body.

Email: [hod.pathology@sgtuniversity.org](mailto:hod.pathology@sgtuniversity.org)

Intercom: 4018

  
Dea  
Faculty of Medicine & Health Sciences  
SGT University, Budhara, Gurgaon

Contd.....



# Faculty of Medicine & Health Sciences

## Department of Pathology

---

- ❖ **PSO 8** - Have an understanding of the common haematological disorders and the investigations necessary to diagnose them and determine their prognosis.
- ❖ **PSO 9** - Perform and interpret in a proper manner the basic clinico-pathological procedures.
- ❖ **PSO 10** - Know the principles of collection, handling and dispatch of clinical samples from patients in a proper manner.
- ❖ **PSO 11** - Describe the rationale and principles of technical procedures of the diagnostic laboratory tests and interpretation of the results;
- ❖ **PSO 12** - Perform the simple bed-side tests on blood, urine and other biological fluid samples;
- ❖ **PSO 13** - Draw a rational scheme of investigations aimed at diagnosing and managing the cases of common disorders;
- ❖ **PSO 14** - Understand biochemical/physiological disturbances that occur as a result of disease in collaboration with pre-clinical departments.

*U. Sharma*  
**Dr. Uma Sharma**  
**Professor & HOD**



A Constituent of SGT University

# S.G.T. Medical College, Hospital & Research Institute

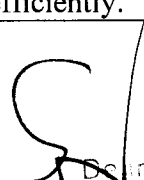
Budhera, Gurugram-Badli Road, Gurugram (Haryana) – 122505 Ph. : 0124-2278183, 2278184, 2278185

## DEPARTMENT OF PEDIATRICS

### MBBS PEDIATRICS

### PROGRAMME OUTCOMES (PO)

<b>Programme outcomes (PO)</b>	<p><b>PO 1.</b> A Medical student should try to possess requisite knowledge, skill, attitudes and values to function as a physician of 1<sup>st</sup> contact.</p> <p><b>PO 2.</b> He should put in efforts to be globally relevant.</p> <p><b>PO 3.</b> He should become a good clinician and later become member of health team and system.</p> <p><b>PO 4.</b> He should be a good communicator.</p> <p><b>PO 5.</b> MBBS student should always remain as a good learner and become a good professional</p> <p><b>PO 6.</b> Recognize the key importance of child health in the context of the health priority of the country.</p> <p><b>PO 7.</b> Recognize the importance of growth, nutrition and development as the foundation of Paediatrics; and help each child realize her/his optimal potential in this regard.</p> <p><b>PO 8.</b> Take detailed history, perform complete physical examination including neurodevelopment and behavioral assessment and anthropometric measurements of the child and make clinical diagnosis.</p> <p><b>PO 9.</b> Perform relevant investigative and therapeutic procedures for the paediatric patient.</p> <p><b>PO 10.</b> Plan and deliver comprehensive treatment for illness in children using principles of rational drug therapy.</p> <p><b>PO 11.</b> Plan and advice measures for the prevention of childhood disease and disability.</p> <p><b>PO 12.</b> Manage childhood emergencies efficiently.</p>
--------------------------------	---

  
Dean  
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

**Programme specific  
outcomes (PSO)**

**PSO 1.** A student should recognize the health needs of neonates, infants, children and adolescents and carries out professional obligations in keeping with principles of National Health Policy and professional ethics.

**PSO 2.** He/she has to acquire the competencies pertaining to paediatrics that are required to be practiced in the community and at all levels of health care system.

**PSO 3.** Must acquire the skills in effectively communicating with the child, family and the community.

**PSO 4.** Should be aware of the contemporary advances and developments in medical sciences as related to child health.

## MBBS PHARMACOLOGY

### Program outcomes

**PO1.** The student should be able to possess a sound knowledge of the subject in the following areas:

- A) Basic principles of pharmacology
- B) Clinical pharmacology (including clinical individualization of drug therapy, drug use in special categories, adverse drug reactions and drug-drug interactions)
- C) Systemic pharmacology (principles of essential drugs and rational use of medicines) & Pharmacovigilance

**PO2.** Apply basic principles of pharmacology to practice rational use of existing drugs and evaluation of new drugs.


**PO3.** Provide appropriate advice related to selection of drug, drug usage, precautions and measures to be taken during administration of drug and treating the ADRs in a given patient.

### Program specific outcomes

**PSO1.** To develop expertise in the field of Pharmacology in which a process of rational thinking and cognitive action will be inculcated so that he/she shall be competent to pursue various activities as demanded by the profession of a MBBS graduate.

**PSO2.** Develop the ability for continued self-learning so as to update the knowledge of recent advances in the field of Pharmacology and allied fields.

**PSO3.** At the end of the course the students should be a competent MBBS graduate who is well versed with the basic principles of Pharmacology and is up to date with the recent advances.

  
Dean  
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram



FACULTY OF MEDICINE & HEALTH SCIENCES  
DEPARTMENT OF PHYSIOLOGY

MBBS PHYSIOLOGY

Programme outcomes (PO)

- PO1. The student would be able to describe the basic Physiology pertaining to the functioning of cell & all the systems of body.
- PO2. The student would be able to know the genesis of disease due to deviation from normal physiological state to pathophysiology state, of the disease.
- PO3. The student would be able to tell the signs and symptoms pertaining to a disease and physiological basic of management of disease.

Programme Specific outcome (PSO)

- PSO I- The students should be able to perform hematological studies regarding the practicals and comment on the result obtained .
- PSO II- The students should be able to correlate study of experimental animal Physiology with Human Physiology.
- PSO III- The students should be able to perform the human Practical and analyze the body function under various physiological conditions.
- PSO IV- The students should be able to do clinical examination of various system.

NAAC

Dean  
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram





FACULTY OF MEDICINE & HEALTH SCIENCES  
DEPARTMENT OF PHYSIOLOGY

MBBS PHYSIOLOGY

Programme outcomes (PO)

- PO1. The student would be able to describe the basic Physiology pertaining to the functioning of cell & all the systems of body.
- PO2. The student would be able to know the genesis of disease due to deviation from normal physiological state to pathophysiology state, of the disease.
- PO3. The student would be able to tell the signs and symptoms pertaining to a disease and physiological basic of management of disease.

Programme Specific outcome (PSO)

- PSO I- The students should be able to perform hematological studies regarding the practicals and comment on the result obtained .
- PSO II- The students should be able to correlate study of experimental animal Physiology with Human Physiology.
- PSO III- The students should be able to perform the human Practical and analyze the body function under various physiological conditions.
- PSO IV- The students should be able to do clinical examination of various system.

NAAE

Faculty of Medicine & Health Sciences  
SGT University, Gurugram  
Dean

Head of Department  
Department of Physiology  
Faculty of Medicine & Health Sciences  
SGT University, Gurugram



A Constituent of SGT University

# S.G.T. Medical College, Hospital & Research Institute

Budhera, Gurugram-Badli Road, Gurugram (Haryana) - 122505 Ph. : 0124-2278183, 2278184, 2278185

## Department of Psychiatry

---

To Dean  
FMHS  
SGT Medical College Hospital  
& research Institute Gurugram

Date : 6<sup>th</sup> Feb 2019

**Sub: "Programme outcome (PO)" and "Programme specific outcomes (PSO)" of MBBS course**

Sir,

With reference to your letter no. SGTU/FMHS/D./915 regarding "Programme outcome (PO)" and "Programme specific outcomes (PSO)" of MBBS course for the department of Psychiatry. is given below.

### **Programme outcomes**

At the end of the MBBS training in Psychiatry the student shall 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

Dean  
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

- (6) Refer complications/unusual manifestations of common disorders and rare psychiatric disorders to the specialist

### **Programme specific outcomes**

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) Listen and use other appropriate communication techniques including an appreciation of non-verbal communication / body language (one's own and the interviewee's)
- (4) Define, elicit and interpret psycho-pathological symptoms and signs.
- (5) Diagnose and manage common psychiatric disorders;
- (6) Identify and manage psychological reactions and psychiatric disorders in medical and surgical patients in clinical practice and in community setting.

*Dr. Ved Pat Mahla*  
Prof. & HOD  
MBS, (Psychiatry)  
Psychiatry 14-16305



A Constituent of SGT University

# S.G.T. Medical College, Hospital & Research Institute

Budhera, Gurugram-Badli Road, Gurugram (Haryana) - 122505 Ph. : 0124-2278183, 2278184, 2278185

To Dean  
FMHS  
SGT Medical College Hospital  
& research Institute Gurugram

Date :07/02/19

**Sub: "Programme outcome (PO)" and "Programme specific outcomes (PSO)" of MBBS course**

Sir,

With reference to your letter no. SGTU/FMHS/D./915 regarding "Programme outcome (PO)" and "Programme specific outcomes (PSO)" of MBBS course for the department of Pulmonary Medicine is given below.

## Programme outcomes (PSO)"

On Successful completion of course, the student shall be able to :

**PO 1** To describe and learn about various anatomical parts of Respiratory System functioning of various physiological units and their respiratory system

**PO 2** To learn signs, symptoms and causes of Shortness of breath cough haemoptysis pain chest Wheeze Sneeze

**PO 3** To learn in detail Epidemiology Transmission Aetio pathogenesis Risk factors Type of tuberculosis Diagnosis Management Prevention Natural course of disease

**PO4** Develop clinical skills (history taking, clinical examination and other instruments of examination) to diagnose various common pulmonary disorders and emergencies.

## Programme specific outcomes (PSO)"

**PO 1** Demonstrate empathy and humane approach towards patients and their families and respect their sensibilities and giving health education messages to patients, families and communities

**PO 2** To learn evolution of National Tuberculosis programme (NTP).

**PO 3** To know in detail about RNTCP Structure & diagnosis Various regimens of treatment DOTS, MDR, XDR, TDR Designated Microscope Centre (DMC), Surveillance & Recording & reporting system

N A A C

Dean

Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

Dean

Faculty of Medicine & Health Sciences  
SGT University

**PO 4** To know in detail about Epidemiology Causes Signs, symptoms Diagnosis Pleural aspiration Management & thoracocentesis

**PO 5** To know in detail about Epidemiology, Risk Factors, Diagnosis Treatment, GOLD Classification, Exacerbation Management & Prevention

**PO 6** Develop skills as a self-directed learner, recognize continuing educational needs; use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence-based pediatrics.

**PO 7** Provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required. Refer a patient to secondary and/or tertiary level of health care after having instituted primary care

**PO 8** To have knowledge about following diagnostic tools Pulse Oxymetry, ABG, Spirometry & Diffusion, Studies 6 Min. Walk Test, Respirometry Radiography, CT Scan & CPET Test.

**Note: Pulmonary Medicine does not hold separate examinations. They are included along with General Medicine**

12/5

Dr. D.P.S. Sudan  
Prof. & Head  
**Professor & HOD**  
Pulmonary Medicine  
SGT Medical College Hospital  
& Research Institute, Gurgaon

NAAC

✓

Dean

Dean  
Faculty of Medicine & Health Sciences  
SGT University, Gurugram

## LEARNING OBJECTIVES OF MD ANATOMY

### Vision

The goal of study of MD Anatomy is to prepare the student to be a competent Anatomist who can teach UG students every aspect of anatomical sciences, plan and modified UG curriculum, embalm a cadaver, design gross and histological laboratory and implement research programme..

**Mission :** The mission of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training to achieve a uniform level of post graduate students throughout the country. The student, after undergoing the training, should be able to deal effectively with the needs of the medical community and should be competent to handle all problems related to the specialty of Anatomy and recent advances in the subject. The post graduate student should also acquire skills in teaching anatomy to medical and para-medical students and be able to integrate teaching of Anatomy with other relevant subjects, while being aware of her/his limitations.

### Program outcome:

At the end of the three years post-graduate training programme in Anatomy the student should be able to:

- P.O.1.** Acquire in depth knowledge of structure of human body from the gross to the molecular level, and correlate it with the functions.
- P.O.2.** Comprehend the principles underlying the structural organization of body and provide anatomical explanations for disturbed functions.
- P.O.3.** Acquire knowledge of basic principles of normal growth and differentiation. Understand critical periods of human growth and development as well as ontogeny of all the organ systems of body. To analyze the congenital malformations and etiological factors including genetic mechanisms involved in abnormal development and their effects on functions.
- P.O.4.** Have comprehensive knowledge of the basic structure and correlated function of the nervous system in order to understand altered state in the various disease processes.
- P.O.5.** Plan and implement teaching program for under-graduate medical students. Be familiar with and be able to use different teaching methods and modern learning resources for under-graduate teaching. Plan and conduct evaluation of under-graduate teaching.
- P.O.6.** Develop/acquire an attitude of scientific enquiry and learn contemporary research techniques. Be familiar with recent scientific advances, identify lacunae in the existing knowledge in a given area and be able to plan investigative procedures for research, analyze data critically and derive logical conclusions.

### Program specific outcome :

- P.S.O.1.** **Cognitive domain :** At the end of three years of postgraduate training the student should be able to :
  - P.S.O.1.1.** Describe the gross anatomy of the human body and correlate the knowledge of structure and function.

N A A C



- P.S.O.1.2. Describe the microanatomy including cytology of various structures of the human body and compare the knowledge of microstructure with function and interpret it accordingly.
- P.S.O.1.3. Interpret the anatomical basis of symptoms and signs of clinical conditions, diagnostic procedures and treatment modalities.
- P.S.O.1.4. Describe the developmental aspects of human body and interpret the developmental basis of various congenital anomalies.
- P.S.O.1.5. Describe the neuroanatomy in its entirety and interpret the neuroanatomical basis of various clinical conditions.
- P.S.O.1.6. Explain various aspects of genetics and describe genetic basis of disorders and principles of genetics counseling.
- P.S.O.1.7. Explain and interpret radiological anatomy and sectional anatomy of the human body as studied by various imaging techniques.
- P.S.O.1.8. Comprehend surface and living anatomy of the human body.
- P.S.O.1.9. Relate forensic anatomy to the study with medicolegal aspects of bone in particular.
- P.S.O.1.10. Explain the general principles of Anatomy Act and Transplant of Human Organ Act.
- P.S.O.1.11. Explain the process of embalming.
- P.S.O.1.12. Comprehend ethical aspects of biomedical research.
- P.S.O.1.13. Comprehend the basis of disposal of biomedical waste.
- P.S.O.1.14. Comprehend horizontal integration of various subdivisions of anatomy with relevant physiology and biochemistry.
- P.S.O.2. **Psychomotor domain:** At the end of the training, the student should be able to:
- P.S.O.2.1. Dissect and demonstrate various parts of adult human body
- P.S.O.2.2. Demonstrate surface landmarks and living anatomy pertaining to muscle power, testing of nerves and palpating vessels.
- P.S.O.2.3. Dissect and demonstrate various parts of fetus
- P.S.O.2.4. Prepare tissue blocks ,perform H&E staining and is able to explain the principles of the following special stains -silver nitrate, periodic acid Schiff, osmic acid, Masson trichome, Verhoeff and Orcein stains .
- P.S.O.2.5. Prepare and deliver lectures on various topics of human anatomy using audio- visual aids.
- P.S.O.2.6. Operate computers so as to prepare documents, tables, charts and projection slides.
- P.S.O.2.7. Identify research topics; carry out research and prepare a dissertation on a topic.
- P.S.O.2.8. Present paper / poster in conferences.
- P.S.O.2.9. Set undergraduate theory question paper, evaluate students and able to compute results including internal assessment marks.
- P.S.O.2.10. Biostatistics - Basic principles and concepts of biostatistics applied to health sciences.
- P.S.O.3. **Affective domain:** At the end of the training, the students should be able to :
- P.S.O.3.1. Co-operate with and react and respond in a cordial manner in his /her interaction with peers, superiors and subordinates.
- P.S.O.3.2. Project a cheerful persona to the students.

- P.S.O.3.3.** Inspire the students to reach greater heights.
- P.S.O.3.4.** Arouse an element of curiosity and wonder in the minds of students.
- P.S.O.3.5.** Maintain a log book (Appendix - I).
- P.S.O.3.6.** Develop a healthy personality and a liking and respect for the subject.



### 3. Programme Outcome

- Should plan and advise measures for the prevention and rehabilitation of patients with various dermatological conditions.
- Able to ensure the implementation of National Health Programmes, particularly in sexually transmitted diseases (STD) and leprosy.
- Acquire training skills in research methodology, professionalism, attitude and communication skills, as below:
  - o Student must know basic concepts of research methodology, plan a research project, consult library and online resources, has basic knowledge of statistics and can evaluate published studies.
  - o Should be able to practice the specialty of dermatology ethically.
  - o Recognize the health needs of patients and carry out professional obligations in keeping with principles of National Health Policy and professional ethics.
- Teaching skills in the subject

Student should learn the basic methodology of teaching and develop competence in teaching medical/paramedical students.

- Should have acquired Problem Solving skills

By the end of the course, the student should have acquired knowledge (cognitive domain), professionalism (affective domain) and skills (psychomotor domain) as given below:

#### A. **Cognitive domain**

At the end of the course, the student should have acquired following theoretical competencies:

- Describe structure, functions and development of human skin.
- Describe ultrastructural aspects of epidermis, epidermal appendages, dermo-epidermal junction, dermis, and sub-cutis.
- Describe basic pathologic patterns and reactions of skin.
- Demonstrate the knowledge of common laboratory stains and procedures used in the histopathologic diagnosis of skin diseases and special techniques such as immunofluorescence, immunoperoxidase and other related techniques.

- Describe papulosquamous and vesiculobullous disorders.
- Describe disorders of epidermal appendages and related disorders.
- Describe inflammatory and neoplastic disorders of dermis.
- Describe skin lesions in nutritional, metabolic and heritable disorders.
  
- Describe pharmacokinetics and principles of topical and systemic therapy.
- Describe drug reaction, its diagnosis and management.
- Describe cutaneous manifestations of systemic disorders.
- Describe anatomy of male and female genitalia, epidemiological transmission, clinical aspects and management of STDs and HIV.
- Describe clinical features, reactions, treatment and rehabilitation in leprosy.
- Describe etiology, pathophysiology, principles of diagnosis and management of common problems in dermatology including emergencies in adults and children.
- Describe indications and methods for fluid and electrolyte replacement therapy including blood transfusion in dermatological conditions.
- Describe common dermatological malignancies in the country and their management including prevention.
- Should be expert in evaluation of ECG, chest X-ray (CXR), biochemical, haematology and immunology reports related to dermatology.
- Acquire knowledge of common laboratory stains and procedures used in the histopathologic diagnosis of skin diseases and special techniques such as immuno-fluorescence, immuno-peroxidase and other related techniques.
- Acquire knowledge of the basics of laser operation and precautions which needs to be taken.
- Demonstrate competence in basic concepts of research methodology and interpretation of data in medical literature/publications.
- Skilled as a self-directed learner, recognize continuing educational needs; use appropriate learning resources and critically analyze relevant published literature in order to practice evidence-based dermatology;
- Should also have a broad idea how to approach an uncommon dermatological disease.

## **B. Affective Domain**

At the end of the course, the student should have acquired the following attitudinal competencies:

- Demonstrate self-awareness and personal development in routine conduct.
- Behavior and Emotional Stability: Dependable, disciplined, dedicated, stable in emergency situations and shows positive approach.
- Motivation and Initiative: Is innovative, enterprising, does not shirk duties or leave any work pending and motivates team members.
- Honesty and Integrity: Is truthful, admits mistakes, does not cook up information, has ethical conduct and exhibits good moral values.
- Interpersonal Skills and Leadership Quality: Has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to seniors, has good communication skills.
- Should be able to maintain confidentiality with regards to history, physical examination and management of patients.
- Identify social, economic, environmental, biological and emotional determinants of patients, and institute diagnostic, therapeutic, rehabilitative, preventive and promotive measures to provide holistic care to patients at individual and community level against skin, venereal disease and leprosy.
- Recognize the emotional and behavioral characteristics of patients and keep these fundamental attributes in focus while dealing with them.
- Demonstrate empathy and humane approach towards patients and their families and respect their sensibilities.
- Demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities.
- Organize and supervise the desired managerial and leadership skills.
- Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.

- Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.

### C. Psychomotor Domain

A student at the end of training of 3 years of MD programme, must acquire the following practical skills:

- General medical skills as learnt in MBBS to be maintained:
  - o Should be able to provide basic life support (BLS).
  - o Should be expert in blood pressure measurement, intravenous access, blood sampling, fluid electrolytes therapy, pleural and cerebrospinal; fluid (CSF) fluid examination.
  - o Should be able to provide basic and advanced life-saving support services in emergency situations.
  - o Should be able to undertake complete monitoring of the patient and identify social, economic, environmental and emotional determinants in a given case and take them into account for planning therapeutic measures.
- Recognize conditions that may be outside the area of his specialty/competence and refer them to the proper specialist.

## 4. Programme Specific Outcome

Dermatology, Venereology and Leprosy, HIV/AIDS Skills The student should:

- Acquire skills in history taking, physical examination, diagnosis and management of patients in dermatology, venereology and leprosy.
- Be able to identify, classify and differentiate cutaneous findings in dermatological terms in a systematic way.
- Be able to perform systemic examination (chest, cardiac, abdomen, neurological, genitals, oral, eye and gynaecological examination) relevant to dermatologic condition.
- Be competent to manage dermatologic emergencies like angioedema, toxic epidermal necrolysis (TEN), Stevens-Johnson syndrome (SJS), pemphigus, drug reaction and necrotic erythema nodosum leprosum (ENL).

- Be able to plan and deliver comprehensive treatment for diseases using principles of rational drug therapy.
- Be able to plan and advice measures for the prevention of infectious disease.
- Be able to plan rehabilitation of patient suffering from chronic illness and disability and those with special needs like leprosy.
- Demonstrate skills in documentation of case details and of morbidity/mortality data relevant to the assigned situation.

#### Laboratory Skills the student:

- o Should be able to perform common laboratory procedures like potassium hydroxide (KOH) mount, Gram stain, Giemsa stain, acid fast bacilli (AFB) stain, Woods lamp examination, stains,culture media etc. related to the cutaneous diagnosis independently.
- o Should be able to order relevant investigations and interpret them to reach to a diagnosis.
- o Should be familiar with other recent investigations.

#### Dermatopathology - Student should be competent enough to:

- To interpret histopathology of common skin diseases.
- To diagnose common skin diseases by examining slides under microscope.

#### Surgery in dermatology

At the end of training following skills should be performed independently by the student:

1. Should able to give incisions, take stitches and sutures.
2. Should be trained in taking skin biopsy and nail biopsy.
3. Should be able to perform chemical peels, manual dermabrasion, skin punch grafting and wound dressing independently.
4. Should be able to perform cryosurgery, nail surgery and acne surgery.
5. Able to perform chemical cauterization, cryotherapy, patch and photopatch test, slit smears and tissue smears.

#### Venereology

1. Should be competent in the clinical approach to the patient of STDs and HIV/AIDS.

2. Should be able to interpret the histopathological diagnosis including laboratory aids related with **Venereology**.
3. Able to perform dark ground illumination, gram stain, Bubo aspiration and tissue smear.
4. Able to manage the patient according to syndromic approach for treatment of STDs.

### **Leprosy**

The student should be:

1. Able to diagnose and approach the case of leprosy.
2. Perform AFB smear.
3. Able to manage cases of lepra reaction.
4. Identify, judge and decide when to refer the patients at appropriate level for surgery or rehabilitation. Should be able to manage pediatric cases with skin diseases.

### **Course contents**

#### **TEACHING AND LEARNING METHODS**

A post graduate student pursuing the course should work in the institution as a full time student. No candidate should be permitted to run a clinic/laboratory/nursing home while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance. Every student shall attend teaching and learning activities during each year as prescribed by the department and should not be absent from work without valid reasons.

Teaching methodology:

A list of teaching and learning activities designed to facilitate students acquire essential knowledge and skills outlined is given below.

1. Lectures: Lectures are to be kept to a minimum. They may, however, be employed for teaching certain topics. Lectures may be didactic or integrated.
  - a) Didactic Lectures: Few topics are suggested as examples:
    - 1) Bio-statistics
    - 2) Use of library
    - 3) Research Methodology
    - 4) Medical code of Conduct and Medical Ethics
    - 5) National Health and Disease Control Programmes

6) Communication Skills

These topics may preferably be taken up in the first few weeks of the first year.

b) Integrated Lectures: Some of the topics may be taken up by multidisciplinary teams eg. Jaundice, Diabetes mellitus, Thyroid etc.

2. Journal Club & Subject seminars: Both are recommended to be held once a week. All PG students are expected to attend and actively participate in discussion and enter relevant details in the Log Book. Further, every post graduate student must make a presentation from the allotted journal(s), selected articles at least four times a year. The presentations would be evaluated and would carry weightage for internal assessment.

3. Student Symposium: Recommended as an optional multi-disciplinary programme. The evaluation may be similar to that described for subject seminar.

4. Ward Rounds: Ward rounds may be service or teaching rounds.

a) Service Rounds: Post graduate students and Interns should be responsible for everyday care of the patients. Newly admitted patients should be worked up by the PGs and presented to the seniors the following day.

b) Teaching Rounds: Every unit should have 'grand rounds' for teaching purpose. A diary (log book) should be maintained for day to day activities by the students.

Entries of (a) and (b) should be made in the Log book. Log books shall be checked and assessed periodically by the faculty members imparting the training.

5. Clinical Case Presentations: Minimum of 5 cases to be presented by every post graduate student each year. They should be assessed using check lists and entries made in the log book

6. Clinico-Pathological Conference (CPC): Recommended once a month for all post graduate students. Presentation is to be done by rotation. If cases are not available, it could be supplemented by published CPCs.

7. Inter-Departmental Meetings: Strongly recommended particularly with Departments of Pathology and Radio-Diagnosis at least once a week. These meetings should be attended by post graduate students and relevant entries must be made in the Log Book.

**Pathology:** A dozen interesting cases may be chosen and presented by the post graduate students and discussed. The staff of Pathology department would then show the slides and present final diagnosis. In these sessions, the advances in immuno-histochemical techniques can be discussed.

**Radio diagnosis: Interesting cases and imaging modalities should be discussed.**

8. **Teaching Skills:** The post graduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
9. The post graduate students should undertake audit, use information technology tools and carry out research, both basic and clinical, with the aim of publishing the work and presenting the same at various scientific fora.
10. **On Continuing Medical Education Programmes (CME):** At least two CME programmes should be attended by each student during the MD programme.
11. **Conferences:** The student should attend courses, conferences and seminars relevant to the speciality.
12. A postgraduate student of a postgraduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.
13. Department should encourage e-learning activities.
14. **Rotation:**

### **Clinical Postings**

A major tenure of posting should be in the Department of Dermatology. It should include care of in-patients, out-patients, special clinics like STD clinic, leprosy clinic, vitiligo clinic and maintenance of case records for both in- and out-patients.

A short posting for 2-4 weeks in the Department of Medicine is to be arranged for exposure to Emergency Medicine and Resuscitation.

### **15. Clinical meetings:**

There should be intra - and inter- departmental meetings for discussing uncommon / interesting medical problems. Each student must be asked to present a specified number of cases for clinical discussion, perform procedures/tests/operations/present seminars/review articles from various journals in inter-unit/interdepartmental teaching sessions. These should be entered in a Log Book; log books should be checked and assessed periodically by the faculty members imparting the training.



## **16. Thesis writing:**

Thesis writing is compulsory. All MD students are required to carry out work on a selected research project under the guidance of a recognized post graduate teacher, the result of which shall be written up and submitted in the form of a Thesis.

During the training programme, patient safety is of paramount importance, therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently; for this purpose, provision of surgical skills laboratories in medical colleges is mandatory.

### **ASSESSMENT**

#### **FORMATIVE ASSESSMENT, i.e., during the training may be as follows**

Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.

Quarterly assessment during the MD training should be based on:

1. Journal based / recent advances learning
2. Patient based /Laboratory or Skill based learning
3. Self directed learning and teaching
4. Departmental and interdepartmental learning activity
5. External and Outreach Activities / CMEs

#### **SUMMATIVE ASSESSMENT, i.e., at the end of training**

The summative examination would be carried out as per the Rules given in POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.

The examination shall be in three parts:

##### **1. Thesis**

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

##### **2. Theory Examination:**

There shall be four papers each of three hours duration. Each paper shall consist of two long essay questions, short essay questions and four short notes. These are:

Paper – I      Basic Science as applied to Dermatology, STDs and Leprosy Paper – II      Dermatology

Paper – III      STD & Leprosy

Paper – IV      Recent advances in field of Dermatology, Applied Sciences pertaining to skin /VD & internal medicine and skin

### **3. Clinical / Practical and viva voce Examination**

Practical examination should be taken to assess competence and skills of techniques and procedures and should consist of two long cases, two short cases and 10 spots.

During oral/viva voce examination, student should be evaluated for Interpretation of data, instruments, clinical problems, radiological and biochemical investigations, slides, drugs, X-rays etc.

Dr. MPS Sawhney  
Prof. & Head  
Dermatology

## **Programme Specific Outcomes (PSO)**

A candidate upon successfully qualifying in the M. D. (Forensic Medicine & Toxicology) examinations should be able to-

- PSO1. Perform medico-legal autopsy independently with required physical assistance, pre-prepare report and derive inferences.**
- PSO2. Interpret histo-pathological, microbiological, radiological, chemical analysis, DNA profile and other investigative reports for medico-legal purposes.**
- PSO3. Depose as an expert witness in a Court of Law on medico-legal matters.**
- PSO4. Describe relevant legal/ court procedures applicable to Medico-legal/ medical practice.**
- PSO5. Identify, examine, initiate management and prepare reports on medico-legal cases in emergency set-up.**
- PSO6. Identify and discharge all legal responsibilities in medico-legal cases/ matters.**
- PSO7. Plan, organize and supervise medico-legal work in general/ teaching/ district hospitals and in any health care set up.**
- PSO8. Interpret, analyse and review medico-legal reports prepared by other medical officers.**
- PSO9. Collect, preserve and dispatch various trace evidences to the concerned authorities.**
- PSO10. Identify and articulate the correct medical ethical position in relation to the patient, profession, societies, State and humanity at large.**
- PSO11. Interpret for and advice authorities on matters related to medical ethics and medico legal issues.**
- PSO12. Discharge his duties in respect of forensic, clinical, emergency, environmental, medico-legal and occupational aspects of toxicology.**
- PSO13. Encourage interaction with the allied departments by rendering services in advanced laboratory investigations and relevant expert opinion.**
- PSO14. Encourage the students to participate in various workshop / seminars/ journal clubs/ demonstration in the allied departments, to acquire various skills for collaborative research.**

  
Prof. & HOD  
Deptt. of Forensic Medicine  
Faculty of Medicine & Health Sciences  
SGT University  
Budhera, Gurgaon

## ***PROGRAMME SPECIFIC OUTCOMES***

PSO1. Should have fair knowledge of basic sciences (Anatomy, Physiology, Biochemistry, Microbiology, Pathology and Pharmacology) as applied to ENT and be able to integrate such knowledge in his clinical practice. She/he should acquire in-depth knowledge of his subject including recent advances. She/he should be fully conversant with the bedside procedures (diagnostic and therapeutic) and having knowledge of latest diagnostics and therapeutics available.

PSO2. The student should be adept at good history taking, physical examination, providing basic life support and advanced cardiac life support, common procedures like FNAC, Biopsy, aspiration from serous cavities, laryngoscopy, nasal endoscopy and microscopic ear examination. She/he should be able to choose the required investigations to enhance the attitude, communication skills, including dealing with patient's relatives with the required empathy, adapt to changing trends in education, learning methods and evolving new diagnostic and therapeutic techniques in the subject of ENT.

PSO3. She/he should know the basic concepts of research methodology plan a research project, plan and write a thesis and should know how to use library facilities. Basic knowledge of statistics is also required. Knowledge about use of internet resources is required.

PSO4. The student should learn the basic methodology of teaching and assessment and develop competence in teaching medical/paramedical students and their assessment.

PSO5. At the end of training, the student should be able to demonstrate ability to practically apply knowledge gained during training period including principles and practices of Otolaryngology, Audiology, Speech Pathology and also Recent advances in Otolaryngology and Head Neck surgery along with general surgical principles.

PSO6. The student should demonstrate a commitment to ethical principles relating to providing patient care, confidentiality of patient information and informed consent.

PSO7. By the end of the training, a student should be able to demonstrate his skills in:

1. Taking a good history and demonstrating good examination techniques.
2. Arrive at a logical working diagnosis, differential diagnosis after clinical examination and order appropriate investigations keeping in mind their relevance (need based) and thereby provide appropriate care that is ethical, compassionate, responsive and cost effective and in conformation with statutory rules.
3. Should be able to perform and demonstrate the practical skills in the field of ENT including the following:
  - a. Examination of the ear, nose and throat oral cavity examination
  - b. Clinico-physiological examination and evaluation of the audio-vestibulo neurological system
  - c. Examination of the larynx and the throat including flexible endoscopy, stroboscopy, voice analysis and the clinico-physiological examination of the speech
  - d. Examination of the otological and audiological system including Tuning fork testing, audiological evaluation, micro and otoendoscopy
  - e. Clinical and physiological evaluation of the nose and paranasal sinuses including nasal endoscopy and olfactory evaluation
  - f. Examination of the neck and its structures
  - g. Should demonstrate and perform various therapeutic skills related to ENT such as :
    - Anterior/ posterior nasal packing
    - Ear Packing and Syringing
    - Foreign body removal from ear, nose or throat
    - Airway management including basic life support skills, Cardiopulmonary resuscitation, intubation, homeostasis maintenance, IV alimentation and fluid, electrolyte maintenance and principles of blood transfusion alimentation including Nasogastric feeding, gastrostomy
    - Wound suturing, dressings and care of the wounds
    - Basic principles of rehabilitation
    - Common procedures like FNAC, biopsy, aspiration from serous cavities, lumbar puncture etc.
    - Tracheostomy
  - h. Should understand principles of and interpret X-rays/CT/MRI, audiograms, ENG, BERA, OAE, ultrasonographic abnormalities and other diagnostic procedures in relation to the speciality

- i. Should have observed/performed under supervision the various surgical procedures in relation to the speciality

## **MD Microbiology**

### **Program outcome-**

At the end of course, postgraduates should be able to

**PO 1.** Plan, execute and evaluate teaching assignments in medical microbiology

**PO 2.** Plan, execute, analyse and present the research work in medical microbiology

**PO 3.** Establish good clinical microbiological services in a hospital and in the community  
in the fields of bacteriology, virology, parasitology, immunology and mycology

**PO 4.** Acquire various skills for collaborative research.

### **Program specific outcome**

At the end of MD Microbiology, the student should be able to

**PSO 1.** Identify infectious agents by conventional and automated laboratory techniques and methods

**PSO 2.** Identify the nosocomial pathogens and play an active role in infection control committee as infection control officer

**PSO 3.** Prepare infection control policies and antibiotic policy

**PSO 4.** Take part in antibiotic stewardship program


**PSO 5.** Impart knowledge on drugs used in treatment of such infections

**PSO 6.** Conversant with recent advances in the medical microbiology

**PSO 7.** Communicate the acquired knowledge clearly & with precision

**PSO 8.** Carry out researches in various units of medical microbiology

**PSO 9.** Help in preparation of museum specimens etc.

  
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

### 3. Programme outcome:-

The intended outcome of a competency based program is a consultant specialist who can practice medicine at a defined level of competency in different practice settings. i.e. ambulatory (outpatient), inpatient, intensive care and emergency medicine.

### 4. Programme specific outcome: -

The specific outcome of MD Course in Pediatrics are to produce a competent pediatrician who:

- Recognizes the health needs of infants, children and adolescents and carries out professional obligations in keeping with principles of the National Health Policy and professional ethics
- Has acquired the competencies pertaining to Pediatrics that are required to be practiced in the community and at all levels of health system
- Has acquired skills in effectively communicating with the child, family and the community
- Is aware of contemporary advances and developments in medical sciences as related to child health
- Is oriented to principles of research methodology
- Has acquired skills in educating medical and paramedical professionals
- Is able to recognize mental conditions and collaborate with Psychiatrists/Child Psychologists for the treatment of such patients



(Dr. Pankaj Abrol)

Professor & Head

Department of Pediatrics



## 1. MD PHYSIOLOGY

### VISION

The goal of Postgraduate Medical Education shall be to produce competent Medical teachers.

1. who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy.
2. who shall have mastered most of the competencies, pertaining to the specialty, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system
3. who shall be aware of the contemporary advance and developments in the discipline concerned;
4. who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology
5. who shall have acquired the basic skills in teaching of the medical and paramedical professionals;

### MISSION


The mission of the Postgraduate curriculum shall be :

- 1.Theoretical knowledge
- 2.Practical and clinical skills
- 3.Thesis skills.
- 4.Attitudes including communication skills.
- 5.Training in research methodology.

### PROGRAMME OUTCOME

At the end of the postgraduate training in the discipline concerned the student shall be able to

1. Recognize the importance to the physiology in the context of the health needs of the community and the national priorities in the health section.
2. Practice the physiology ethically and in step with the principles of primary health care.
3. Demonstrate sufficient understanding of the basic sciences relevant to the physiology.
4. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while

  
Dean  
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

planning therapeutic, rehabilitative, preventive and primitive measure/strategies.

5. Diagnose and manage majority of the conditions in the physiology concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.

6. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the physiology.

7. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.

8. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with the societal norms and expectations.

9. Play the assigned role in the implementation of national health programme, effectively and responsibly.

10. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the hospital.

11. Develop skills as a self-directed learner, recognize continuing education needs select and use appropriate learning resources.

12. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.

13. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.

14. Function as an effective leader of a health team engaged in health care, research or training.

15. To conduct research work following labs has been established in Department of Physiology

- Respiratory Lab
- Neuro-Physiology Lab
- Cardiovascular Research lab
- Yoga research lab

#### **PROGRAMME SPECIFIC OUTCOME**

At the end of training course a P.G. student have thorough knowledge of the body with respect to

### **1) Cognitive domain**

- a) Historical aspect
- b) Evolution & development
- c) Comparative physiology
- d) Structure – gross & electron microscopic & functions at cellular level.
- e) Qualitative & quantitative aspects
- f) Regulating mechanisms.
- g) Variations in physiological & pathological conditions
- h) Applied physiology
- i) Recent advances.

### **2) Psychomotor domain**

- a) to perform human & animal experiments, Haematology experiments & experiments based on biophysical principles.
- b) To acquire history taking & clinical examination skills.

### **3) Affective domain**

- a) They should develop communication skills to interact with students, colleagues, superiors & other staff members.
- b) They should be able to work as a member of a team to carry out teaching as well as research activities.
- c) They should have right attitude towards teaching profession.

# MD Pharmacology

## Vision:-

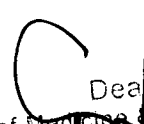
- *To produce competent medical teachers:*
  - Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.
  - Who shall have orientation to the principles of research methodology.
  - Who shall be aware of the recent advances and developments in the discipline concerned.

## Mission:-

- *At the end of the postgraduate training the student shall be able to:*
  - Demonstrate sufficient understanding of the concerned speciality.
  - Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.
  - Demonstrate competence in basic concepts of research methodology and be able to critically analyze relevant published research literature.
  - Develop skills in using educational methods and techniques as applicable to the teaching of medical students.

## Programme outcome:-

- To develop expertise in the field of Pharmacology. A process of rational thinking and cognitive action will be inculcated in an individual so that he/she shall be competent to pursue various activities as demanded by the profession as an efficient pharmacologist.

  
Dean  
Faculty of Medicine & Health Sciences  
SGT University, Budhera, Gurugram

- At the end of the course the students should be a competent Pharmacologist who is well versed with the basic principles of Pharmacology and is up to date with the recent advances.
- Acquisition of skills related to teaching, research methodology and corporate world.
- Knowledge of elementary statistics and its applications.
- Overall development of skills and personality of the PG resident.
- Broaden the scope of Pharmacology from bench to bed side

### **Programme specific outcome:-**

- *At the end of the course the student should be able to Possess a sound knowledge of the subject in the following areas:*
  - Basic principles of pharmacology (including molecular pharmacology)
  - Process of new drug development
  - Clinical pharmacology (including clinical pharmacokinetics, individualization of drug therapy, drug use in special categories, adverse drug reactions and drug-drug interactions, P-drug concept)
  - Systemic pharmacology
  - Principles of essential drugs and rational use of medicines
  - Pharmacoeconomics
  - Pharmacoepidemiology
  - Pharmacovigilance
  - Pharmacogenomics
  - Research methodology (animal as well as clinical)
  - Biostatistics
  - Commonly used laboratory techniques, analytical methods and instrumentation
  - Major national health problems and programmes

- Drug regulations in India and abroad
- Teaching technology
- Methods of Communication and medical writing
- Apply basic principles of pharmacology to practice rational use of existing drugs and evaluation of new drugs
- Collect and analyze experimental and clinical data related to drug kinetics and Dynamics
- Interpret the analyzed data with reasonable accuracy and derive logical conclusions
- Provide appropriate advice related to selection of drug, drug usage (desirable and undesirable effects, Kinetics, interactions), Precautions and measures to be taken during administration of drug and treating the ADRs in a given patient taking into consideration physiological, psychological & Pathological features
- Audit drug utilization and drug related adverse events
- Assess emergency situations while carrying out drug trials and institute emergency management till appropriate assistance from clinical side is available
- Develop the ability for continued self learning so as to update the knowledge of recent advances in the field of Pharmacology and allied fields
- Be competent to teach and train undergraduate and future postgraduate medical students and junior doctors in Pharmacology as well as nurses and paramedical staff in Medical Colleges, Institutions and other Hospitals
- Plan and carry out both laboratory and clinical research with adherence to scientific methodology and GLP/GCP guidelines
- Be aware of legal and ethical aspects of drug evaluation
- Communicate the findings, results and conclusions of scientific research, both verbally and in writings

- Be aware of regulatory procedures needed to be carried out prior to the marketing of a new drug in India
- Perform common clinical procedures required for evaluation of drug in healthy volunteers and patients with competence
- Organize and manage administrative responsibilities for routine day to day work as well as new situations
- Carry out necessary resuscitative measures in emergency situations arising during drug evaluation
- Use teaching-learning media effectively (E.g. Computer, LCD etc)
- Be able to analyze and evaluate a research paper
- Be able to formulate and conduct problem based teaching/ learning exercises
- Be capable of various managerial skills eg. Organization of workshops/training programmes etc
- Be able to constitute and conduct the proceedings of various committees e.g. IAEC, IEC etc.

disciplines (e.g. behavioural sciences), law enforcement agencies, families and consumers and members of the public.

### **3. SUBJECT SPECIFIC COMPETENCIES / Programme outcome**

By the end of the course, the student should have acquired knowledge (cognitive domain), professionalism (affective domain) and skills (psychomotor domain) as given below:

#### **A. Cognitive domain**

By the end of the course, the student should demonstrate knowledge in the following:

##### **General topics:**

1. The student should be able to demonstrate knowledge of basic sciences (Anatomy, Physiology, Biochemistry, Microbiology, Pathology and Pharmacology) as applied to Psychiatry.
2. The student should be able to explain aetiology, assessment, classification and management and prognosis of various psychiatric disorders (including psychiatric sub-specialities), and Neuroanatomy, Neurophysiology, Neurochemistry, Neuroimaging, Electrophysiology, Psychoneuroendocrinology, Psychoneuroimmunology, Chronobiology and Neurogenetics.
3. Acquire knowledge of delirium, dementia, amnesic & other cognitive disorders and mental disorders due to a general medical condition.
4. The student should be able to explain follow-up care of person suffering from chronic relapsing psychiatric ailments.
5. The student should acquire knowledge of emergency measures in acute crisis arising out of various psychiatric illnesses including drug detoxification and withdrawal.
6. The student should acquire knowledge of pharmacokinetics & pharmacodynamics of drugs involved in psychiatric management of patients.
7. The student should acquire knowledge of (a) normal child development and adolescence, mental retardation in children (b) learning & associated disorders and their management
8. The student should acquire knowledge and be able to explain mechanisms for rehabilitation of psychiatric patients.
9. The student should acquire knowledge of substance related disorders and their management.
10. The student should acquire knowledge of psychotic disorders, mood disorders, and anxiety disorders and their management
11. The student should acquire knowledge of sexual and gender identity disorders and their management.
12. The student should acquire knowledge of eating disorders and sleep disorders and their management.
13. The student should be conversant with recent advances in Psychiatry.
14. The student should be conversant with routine bedside diagnostic and therapeutic procedures and acquire knowledge of latest diagnostics and therapeutics procedures available.



15. The student should be conversant with various policy related aspects of Psychiatric practice in India (e.g. Mental Health Act, National Health Mental

Health Programmes etc.).

16. The student should be conversant with research methodologies.

#### **4. Programme Specific Outcome**

##### **B. Affective Domain:**

1. The student should be able to function as a part of a team, develop an attitude of cooperation with colleagues, interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. The student should always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel
3. The student should demonstrate respect for the rights of the patient including the right to information and second opinion.
4. The student should develop communication skills to prepare reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

##### **C. Psychomotor domain**

At the end of the course, the student should acquire the following clinical skills and be able to:

become an expert in good history taking, physical examination, mental state examination, and able to establish rapport and counsel family members and patients on scientific basis. choose the required investigations for both short and long term management.

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

1. Obtain a proper relevant history, and perform a humane and thorough clinical examination including detailed mental state examinations using proper communication skills.
2. Arrive at a logical working diagnosis and differential diagnosis after clinical examination.
3. Order appropriate investigations keeping in mind their relevance and cost effectiveness and obtain additional relevant information from family members to help in diagnosis and management.
4. Identify psychiatric situations calling for urgent or early intervention and refer at the optimum time to appropriate centres.
5. Write a complete case record with all necessary details.
6. Write a proper discharge summary with all relevant information.
7. Obtain informed consent for any examination/procedure.
8. Perform clinical audit.
9. Must be able to perform modified Electroconvulsive therapy (ECT).

The student, at the end of the course should be able to perform independently, the following:

1. Conduct detailed Mental Status Examination (MSE)
2. Cognitive behaviour therapy
3. Supportive psychotherapy
4. Modified ECT
5. Clinical IQ assessment
6. Management of alcohol withdrawal
7. Alcohol intoxication management
8. Opioid withdrawal management
9. Delirious patients
10. Crisis intervention

The student must be able to demonstrate approach to patient with variety of clinical presentations including following symptoms:

1. Auditory hallucinations
2. Visual hallucinations
3. Pseudo hallucination
4. Seizures true and pseudo seizure
5. Panic attack
6. Manic symptoms
7. Behavioural symptoms of schizophrenia
8. Catatonia
9. Delirium
10. Malingering

The student, at the end of the course should be able to perform under supervision, the following:

1. Behaviour therapy
2. Opioid intoxication management
3. Genetic counselling
4. Family therapy

The student, at the end of the course should be able to assist the expert in the following:

1. Interpersonal therapy
2. Management of suicide attempt

## **Syllabus**

### **Course Contents:**

No limit can be fixed and no fixed number of topics can be prescribed as course contents. He is expected to know the subject in depth; however emphasis should be on the diseases/health problems most prevalent in that area. Knowledge of recent advances and basic sciences as applicable to his/her specialty should get high priority. Competence in managing behavioural problems commensurate with the specialty must be ensured.

The student must acquire knowledge in the following: Theoretical concepts:

1. Functional and behavioural neuroanatomy
2. Neurophysiology and Neuro-chemistry
3. Neuro-imaging
4. Electrophysiology (including chronobiology, electroencephalogram, etc)
5. Psychoneuroendocrinology
6. Neurogenetic disorder
7. Classification In Psychiatry
8. Theory of personality and personality disorders
9. Abuse (Physical / Sexual) or Neglect Of Child /Adult
10. Adjustment Disorder
11. Anxiety Disorders (including Panic Disorder, Agoraphobia, Phobias, Obsessive-Compulsive Disorder, Posttraumatic Stress Disorder, Acute Stress Disorder, Generalized Anxiety Disorder, etc).
12. Case-Presentations (including History Taking, Neurological Examination, Mental Status Examination etc.).
13. Child Psychiatry (including Learning Disorders, Motor Skills Disorder, Communication Disorders, Pervasive Developmental Disorders (Autistic Disorder, Rett's Disorder, Childhood Disintegrative Disorder, Asperger's Disorder), Attention-Deficit/Hyperactivity Disorder, Conduct Disorder, Oppositional Defiant Disorder, Pica, Tic Disorders, Elimination Disorders, Separation Anxiety Disorder, Selective Mutism, Reactive Attachment Disorder of Infancy or Early Childhood, Stereotypic Movement Disorder, etc.)
14. Community psychiatry
15. Consultation-Liaison Psychiatry
16. Culture Bound Syndromes
17. Dissociative Disorders (including Dissociative Amnesia, Dissociative Fugue, Dissociative Identity Disorder, Depersonalization Disorder, etc.
18. Eating Disorders (including Anorexia Nervosa, Bulimia Nervosa, etc.)
19. Electro-Convulsive Therapy
  
20. Emergencies In Psychiatry
21. Emotional Intelligence
22. Ethics In Psychiatry
23. Factitious Disorders
24. Forensic and Legal Psychiatry (including Indian Lunacy Act, Mental Health Act, Persons with Disability Act, Narcotic Drugs and Psychotropic Substance Act)

25. Impulse-Control Disorders (including Intermittent Explosive Disorder, Kleptomania, Pyromania, Pathological Gambling, Trichotillomania, etc)
26. Learning – Theories
27. Memory
28. Mental Retardation
29. Miscellaneous: Non-compliance, Malingering, Antisocial Behaviour, Borderline Intellectual Functioning, Age-Related Cognitive Decline, Bereavement [including Death], Academic Problems, Occupational Problems, Identity Problems, Religious or Spiritual Problems, Acculturation Problems, Phase of Life Problems, Chronic Fatigue Syndrome, etc.)
30. Mood Disorders (including Depressive Disorders, Bipolar Disorders, Cyclothymic Disorder, etc.)
31. Movement Disorders (including Medication-Induced Movement Disorders, etc)
32. Organic Psychiatry (including Amnesic Disorders, Catatonic Disorder, Cerebrovascular Disorders, Delirium, Dementia, Endocrine Epilepsy, Head Injury, Headache, HIV – AIDS, Infections, etc.
33. Neuropsychology (including Psychological Features of Cerebral Disorders, Clinical Assessment etc.)
34. Pre-Menstrual Dysphoric Disorder
35. Post-Partum Psychiatric Disorders
36. Psychodynamics
37. Psychology (Clinical)
38. Psychometry/ Psychodiagnostics
39. Psychopharmacology
40. Psychosis (including Schizophrenia, Schizophreniform Disorder, Schizoaffective Disorder, Delusional Disorder, Brief Psychotic Disorder, Shared Psychotic Disorder, etc).
41. Psychosomatic Disorders
42. Psychotherapy
43. Sexual And Gender Identity Disorders (including Sexual Desire Disorders, Sexual arousal Disorders, Orgasmic Disorders, Sexual Pain Disorders, Vaginismus, Paraphilias, etc)
44. Sleep Disorders (including Insomnia, Narcolepsy, Breathing-Related Sleep Disorders, Circadian Rhythm Sleep Disorders, Parasomnias, Nightmare Disorder, Sleep Terror Disorder, Sleepwalking Disorder, etc.)
45. Somatoform Disorders (including Somatization Disorder, Undifferentiated Somatoform Disorder, Conversion Disorder, Pain Disorder, Hypochondriasis, Body Dysmorphic Disorder, etc.)
46. Statistics/Research Methodology
47. Stress and related disorders
48. Stupor
49. Substance Related Disorders (including Alcohol-Related Disorders, Amphetamine-Related Disorders, Caffeine-Related Disorders, Cannabis- Related Disorders, Cocaine-Related Disorders, Hallucinogen-Related Disorders, Inhalant-Related Disorders, Nicotine-Related Disorders, Opioid- Related Disorders, Phencyclidine-Related Disorders, Sedative-, Hypnotic-, or Anxiolytic-Related Disorders, etc.)
50. Suicidemanagement and medico-legal aspect

research and training. They should have adequate medico-legal awareness especially with respect to PC-PNDT act as there is dwindling female sex ratio in state.

### **Program Specific Outcome**

After completion of course, a resident should

● PSO 1: Demonstrate the knowledge of basic sciences relevant to radiology.

PSO 2 :Acquire good basic knowledge of sub- specialities such as intervention radiology, neuro radiology, vascular radiology, GI and GU radiology, MSK radiology, emergency radiology, paediatric radiology and chest radiology.

PSO 3: Independently conduct all routine, special and advanced investigations.

PSO 4: Provide round the clock emergency radiological services as a supportive measure for the management of cases in the institute.

● PSO 5: Know the diagnostic features , limitations and cost effectiveness of various investigations.

PSO 6: Should be able to plan an algorithm of various imaging techniques in a given problem setting.

PSO 7: Acquire knowledge of and emphasise the therapeutic part of intervention radiology.

PSO 8: Know the basic aspects of legal issues and medico-legal aspects of cases.

PSO 9: Able to formulate basic research protocols and carry out research.

PSO 10: Should be able to organize CME activities. To remain abreast with the latest advancement in the technology and to acquire the practical training with respect to that.

PSO 11: Should be able to decide about further sub speciality to be undertaken.

Each student should obtain proficiency in the following domains during the period of training:

1. Theoretical knowledge of different aspects of Pulmonary Medicine including the status in health and disease.
2. Acquire clinical skills.
3. Acquire practical skills.
4. Management of emergencies including intensive care.
5. Preparation of thesis as per MCI guidelines.

These involve patient management in the outpatient, inpatient and emergency situations, case presentations, didactic lectures, seminars, journal reviews, clinico-pathological conferences and mortality review meetings and working in the laboratories.

### **3. Programme Outcome**

By the end of the course, the student should have acquired knowledge (cognitive domain), professionalism (affective domain) and skills (psychomotor domain) as given below:

#### **A. Cognitive domain**

At the end of the MD course in Pulmonary Medicine, the students should be able to:

1. Demonstrate sound knowledge of common pulmonary diseases, their clinical manifestations, including emergent situations and of investigative procedures to confirm their diagnosis. A comprehensive knowledge of epidemiological aspects of pulmonary diseases should be acquired.
2. Demonstrate comprehensive knowledge of various modes of therapy used in treatment of pulmonary 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 medical and surgical procedures available for treatment of various diseases and to offer a comprehensive plan of management inclusive of National tuberculosis Control Programme.

5. Manage common pulmonary emergencies and understand the basic of intensive care in patients with pulmonary diseases.
6. Practice the field of pulmonary medicine ethically and assiduously, show empathy and adopt a humane approach towards patients and their families.
7. Recognize the national priorities in pulmonary medicine and play an important role in the implementation of National Health Programmes including tuberculosis.
8. Demonstrate competence in medical management.
9. Should inculcate good reading habits and develop ability to search medical literature and develop basic concept of medical research.

## **B. Affective Domain**

1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

## **C. Psychomotor domain**

At the end of the course, the student should acquire following clinical skills and 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 pulmonary disorders and emergencies.
3. Perform simple, routine investigative and office procedures required for making the bedside diagnosis, especially sputum collection and examination for etiologic organisms especially Acid Fast Bacilli (AFB), interpretation of the chest x-rays and lung function tests.
4. Interpret and manage various blood gases abnormalities in various pulmonary diseases.
5. Develop management plans for various pulmonary diseases.
6. Assist in the performance of common procedures, like bronchoscopic examination, pleural aspiration and biopsy, pulmonary physiotherapy, endotracheal intubation and pneumothoracic drainage / aspiration etc.



7. Recognize emergency situations in intensive care, respond to these appropriately and perform basic critical care monitoring and therapeutic procedures.
8. Collect, compile, analyse, interpret, discuss and present research data.
9. Teach pulmonary medicine to undergraduate and postgraduate students.

To acquire the above skills, the student should be exposed and trained in the following tests and procedures:

#### **4. Programme Specific Outcome**

##### **1. Diagnostic tests: Performance and interpretation**

- Sputum and other body fluids examination with ZN stain for AFB, culture methods for pathogenic bacteria, fungi and viruses
- Newer diagnostic techniques for tuberculosis including molecular techniques
- FNAC of lung masses (blind and image-guided)
- Arterial blood gas analysis and pulse oximetry
- Imaging: Interpretation of plain radiography, ultrasound examination, Computed tomogram, PET scan, MRI
- Sputum cytology
- Simple hematological tests
- Immunological and Serological tests
- Polysomnography (full-night and split-night studies) including CPAP titration; evaluation of daytime sleepiness
- Cardiopulmonary exercise testing
- Pulmonary function tests and interpretation (Spirometry, lung volume, diffusions, body plethysmography, other lung function tests)
- Bronchoprovocation tests
- BCG vaccination
- Mantoux testing; interferon gamma release assays
- Bronchoscopy: fiberoptic/rigid, diagnostic and therapeutic
- ECG, 2D and Doppler echocardiography
- Venous Doppler ultrasound
- Skin tests for hypersensitivity
- Sputum induction and non-invasive monitoring of airway inflammation

5. Carry out & conduct various research problems both at basic and applied level.
6. Suggest, evaluate, interpret biochemical investigation in a given clinical situation and apply knowledge in clinical problems.

### **Programme Specific Outcomes**

1. Describe the concepts of Biochemistry regarding biomolecules – carbohydrates, proteins, lipids, nucleic acids, enzymes, minerals & vitamins.
2. Discuss the intermediary metabolism of the above biomolecules & their regulation.
3. Discuss the impairments in metabolism of the above, including inborn errors of metabolism.
4. Describe the role of nutrition in health & disease.
5. Apply theoretical knowledge to interpretation of biochemical parameters in health and disease.
6. Develop skills in performing biochemical techniques like electrophoresis, colorimetry spectrophotometry, flame photometry & interpreting the data obtained. Optional - ELISA, RIA, techniques in molecular genetics.