

# **Proposed Curriculum for MBBS in General Medicine and Allied Specialties**

## **Medicine TB and Chest Diseases**

### **Goal:**

The broad goal of MBBS course in Medicine is for the students to acquire knowledge base, skills and behavioral attributes to function effectively as the first contact physician.

### **Departmental Objectives:**

At the end of the MBBS course, the student should be able to possess knowledge, skills and behavioral attributes to:

1. Elicit a detailed and good clinical history, perform thorough physical examination, elicit physical signs, interpret findings, develop differential diagnoses and request relevant laboratory investigations.
2. Diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, lifestyle diseases, tropical and environmental diseases.
3. Plan relevant diagnostic and investigative procedures and be able to interpret them.
4. Outline the principles of management and prevention of common health problems affecting the community.
5. Plan and write prescription for comprehensive treatment using the principles of rational drug therapy
6. Provide first level care for common medical conditions and emergencies and recognize the timing and level of referral, if required.
7. Perform essential bedside procedures like venepuncture, SC and IM injections, biological fluid examinations.
8. Assist common bedside procedures like pleural aspiration, bone marrow aspiration and biopsy, lumbar puncture etc.
9. Resuscitate a patient efficiently by providing BLS in emergencies.
10. Develop an interest in the care for all types of patients.

11. Evaluate each patient as a person in society and not merely a collection of organ systems or symptoms and signs.
12. Be able to discern the hopes and fears of patients, which underlie the symptom complexes and know how to handle these emotions, both in himself / herself and others.
13. Demonstrate skills in documentation of case details including epidemiological data.
14. Respect patients' rights and privileges including patients' right to information and right to seek a second opinion.
15. Demonstrate empathy and humane approach towards patients and their families and respect their sensibilities.
16. Demonstrate communication skills in interviewing patients, providing explanations to patients and families about the management and prognosis, providing counseling and giving health education messages to patients, families and communities.
17. Have an open attitude to the developments in Medicine so as to be aware of the need to keep abreast of new knowledge.
18. Learn to be adaptable to new ideas and new situations where resources may be limited.
19. Comprehend, accept and manage the uncertainties in scientific knowledge and medical practice
20. Understand the ethical and legal implications of his/her medical decisions.

# Course content

## 1. Clinical Methods in the Practice of Medicine

Course Contents	Must know	Desirable to know
<b>Clinical approach to patients:</b> The art of medicine, doctor-patient relationship, communication skills, doctor's responsibilities	√	
<b>Clinical approach to disease and care of patients:</b> Clinical diagnostic reasoning i.e. diagnostic possibilities based on interpretation of history, physical findings and laboratory investigations	√	
<b>Principles of rational management:</b> keeping in mind the best evidence in favor of or against different remedial measures (EBM)	√	

## 2. Common Symptoms of Disease

<b>Course Contents</b>	<b>Must know</b>	<b>Desirable to know</b>
Pain: pathophysiology, clinical types, assessment and management	√	
Fever: clinical assessment and management	√	
Cough, chest pain, dyspnoea, hemoptysis	√	
Edema, anasarca, ascites	√	
Pallor, jaundice	√	
Bleeding	√	
Anorexia, nausea and vomiting	√	
Constipation and diarrhea	√	
Hematemesis, malena and hematochezia	√	
Common urinary symptoms- dysuria, pyuria, anuria, oliguria, polyuria, nocturia, enuresis	√	
Body pains and joint pains	√	
Headache, seizures, fainting, syncope, dizziness, vertigo	√	
Disturbances of consciousness and coma	√	
Weight loss and weight gain	√	

<b>Course Contents</b>	<b>Must Know</b>	<b>Desirable to know</b>
Clinical genetics – common types, clinical presentation, investigation and prevention of genetic diseases and genetic counseling	√	
Medial disorders and pregnancy	√	

### 3. **Nutrition and Nutritional Disorders**

<b>Course Contents</b>	<b>Must know</b>	<b>Desirable to know</b>
Nutritional assessment & needs	√	
Protein energy malnutrition	√	
Obesity	√	

Vitamin deficiency & excess	√	
Mineral deficiency and excess		√
Diet therapy	√	
Parenteral nutrition therapy		√

#### 4. Fluid, Electrolyte and Acid-base Imbalance

Course Contents	Must Know	Desirable to know
Fluid and electrolyte balance; acidosis and alkalosis in particular relevance to diarrhea, vomiting, dehydration, uremia and diabetic ketoacidosis	√	

#### 5. Poisonings, Stings and Bites

Course Contents	Must Know	Desirable to know
General approach to the poisoned patient	√	
Poisoning by specific pharmaceutical agents- organophosphorus compounds, methyl alcohol, narcotics, aluminium phosphide, sedatives/ hypnotics, other poisonings common locally	√	
Drugs of misuse	√	
Snake bite and Envenomation	√	
Other bites and stings – scorpion, spider	√	

#### 6. Specific Environmental and Occupation Hazards

Course Contents	Must Know	Desirable to know
Heatstroke and hypothermia	√	
Chemicals and pesticides	√	
Drowning and near drowning	√	
Electrical injuries	√	
Radiation injury		√
Heavy metal poisoning		√

#### 7. Immune Response and Infections

Course Contents	Must Know	Desirable to know
Approach to infectious diseases – diagnostic and therapeutic	√	

principles		
Immune defense mechanisms	√	
Laboratory diagnosis of infections	√	
Principles of immunization and vaccine use	√	
Immunodeficiency disorders - acquired	√	
Immunodeficiency disorders – congenital		√
Clinical syndromes – diagnostic and therapeutic approach <ul style="list-style-type: none"> <li>• The febrile patient</li> <li>• Fever and rash</li> <li>• Fever of unknown origin</li> <li>• Infective endocarditis</li> <li>• Intra-abdominal infections and abscesses</li> <li>• Acute infectious diarrhoeal diseases and food poisoning</li> <li>• Sexually transmitted diseases – overview &amp; clinical approach</li> <li>• Infections of skin, muscle &amp; soft tissues</li> <li>• Osteomyelitis</li> <li>• Hospital acquired infections</li> <li>• Infections in immuno-compromised hosts</li> </ul>	√	

**8. Specific Infections – Epidemiology, clinical features, laboratory diagnosis, rational use of antimicrobial therapy against the following and their prevention:**

Course Contents	Must Know	Desirable to know
<b>Protozoal infections</b> Amoebiasis, Giardiasis, Malaria, Leishmaniasis Trichomoniasis	√	
Toxoplasmosis, Trypanosomiasis	√	
<b>Bacterial infections</b> <b>Common gram positive infections</b>		
Common gram-negative infections	√	
Enteric fevers	√	
Tetanus	√	
Pertussis and diphtheria		√
Legionella infections	√	
Botulism	√	

Gas gangrene, other clostridia infections		√
Cholera	√	
Shigellosis and bacillary dysentery	√	
Brucellosis	√	
Plague		√
Leptospirosis	√	
Donovanosis (Granuloma inguinale)		√
Helicobacter Pylori		√
Infections due to pseudomonas & other gram- negative bacteria	√	
Anaerobic infections	√	
<b>Mycobacterial diseases</b>	√	
Tuberculosis		
Leprosy	√	
<b>Viral infections</b>	√	
Common exanthemata e.g.Measles, mumps, rubella, varicella		
Herpes simplex and herpes zoster	√	
Influenza and other common viral respiratory infections	√	
Human immunodeficiency virus (HIV)	√	
Viral gastroenteritis	√	
Dengue fever	√	
Rabies	√	
Viral encephalitis	√	
Infectious mononucleosis		√
Rickettsia, Mycoplasma & Chlamydial diseases		√
Infections in immunocompromised host	√	
Common fungal infections e.g.Candidiasis, Aspergillosis Histoplasmosis, Cryptococcosis,Mucormycosis, Pneumocystis carinii	√	
Common worm infestations e.g. hookworm, roundworm, thread worm,	√	

## 9. Cardiovascular system

Course Contents	Must Know	Desirable to know
Clinical examination of the cardiovascular system	√	
Functional anatomy, physiology and investigations	√	
<b>Major manifestations of cardiovascular disease</b> Chest pain, breathlessness, palpitation Acute circulatory failure (cardiogenic shock) Presyncope and syncope Cardiac arrest and sudden cardiac death Abnormal heart sounds and murmurs	√	
ECG, x ray chest with reference to common CVS diseases	√	
Acute and chronic congestive cardiac failure	√	
Rheumatic fever and rheumatic heart disease	√	
Valvular heart disease	√	
Infective endocarditis	√	
Coronary artery disease	√	
Common congenital heart disease in the adults: ASD, VSD, PDA, TOF and coarctation of aorta	√	
Cor pulmonale	√	
Hypertension and hypertensive heart disease	√	
Common cardiac arrhythmias	√	
Deep vein thrombosis	√	
Atherosclerosis and peripheral vascular disease		√
Pericardial disease: pericardial effusion and cardiac tamponade	√	
Aortic aneurysm		√
Myocarditis and cardiomyopathy		√



## 10. Respiratory system

Course Contents	Must Know	Desirable to know
Clinical examination of the respiratory system	√	
Respiratory physiology and diagnostic investigations – x ray chest, sputum examination, pulmonary function tests	√	
Bronchoscopy		√
<b>Major manifestations of lung disease</b> Cough, dyspnoea, chest pain, haemoptysis The solitary radiographic pulmonary lesion Acute and chronic respiratory failure	√	
Upper respiratory infections	√	
Pneumonias	√	
Bronchial asthma	√	
Chronic obstructive pulmonary disease	√	
Pulmonary tuberculosis: different presentations	√	
Suppurative lung diseases: bronchiectasis, lung abscess	√	
Pleural diseases – effusion, empyema, pneumothorax	√	
Interstitial and infiltrative lung diseases		√
Common occupational lung diseases	√	
Tumors of the bronchus and lung		√
Pulmonary vascular diseases <ul style="list-style-type: none"> <li>• Pulmonary hypertension</li> <li>• Pulmonary thromboembolism</li> </ul>		√
Acute respiratory distress syndrome	√	
Obstructive sleep apnoea		√
Diseases of the nasopharynx, larynx and trachea		√
Diseases of the mediastinum, diaphragm and chest wall		√

## 11. Renal and genitourinary system

Course Contents	Must Know	Desirable to know
Renal physiology and common renal function tests: urine examination, renal function tests, common imaging methods	√	
<b>Major manifestations of renal and urinary tract disease</b> Dysuria, pyuria, urethral symptoms, disorders of urine volume, hematuria, proteinuria, oedema, incontinence, obstruction of the urinary tract	√	
Acute renal failure	√	
Chronic renal failure	√	
Urinary tract infections and pyelonephritis	√	
Congenital abnormalities of the kidneys and urinary system		√
Glomerulonephritides and nephritic syndrome	√	
Tubulo-interstitial diseases		√
Renal involvement in systemic disorders	√	
Drugs and the kidney	√	
Renal vascular diseases		√
Urinary tract calculi and nephrocalcinosis	√	
Tumors of the kidney and genitourinary tract		√
Renal replacement therapy: basics		√

## 12. Gastrointestinal tract

Course Contents	Must Know	Desirable to know
Clinical examination of the abdomen	√	
Basic investigations: stool examination, role of imaging, endoscopy and tests of functions	√	
<b>Major manifestations of gastrointestinal disease</b> Abdominal pain (acute and chronic), dysphagia, dyspepsia, vomiting, constipation, diarrhea, abdominal lump, weight loss, gastrointestinal bleeding-upper and lower, approach to the patient with gastrointestinal disease	√	
Diseases of the mouth and salivary glands – oral ulcers, candidiasis, parotitis	√	
Diseases of the oesophagus – GERD, other motility disorders, oesophagitis , carcinoma oesophagus	√	
Diseases of the stomach and duodenum-gastritis, peptic ulcer disease, tumors of stomach	√	
<b>Disease of the small intestine</b> Acute gastroenteritis & food poisoning , acute, sub-acute and chronic intestinal obstruction , intestinal tuberculosis	√	
Inflammatory bowel disease Malabsorption syndrome Tumors of small intestine		√
<b>Disorders of the colon and rectum</b> Bacillary dysentery, amoebic colitis ,ulcerative colitis Tumors of the colon & rectum Irritable bowel disease	√	
Abdominal tuberculosis :peritoneal,nodal, gastrointestinal	√	
Ischaemic gut injury		√
Anorectal disorders	√	
Diseases of the peritoneal cavity :acute and chronic peritonitis, ascites	√	

### 13. Disease of pancreas

Course Contents	Must Know	Desirable to know
Acute and chronic pancreatitis	√	
Tumors of pancreas		√

### 14. Hepatobiliary tract disease

Course Contents	Must Know	Desirable to know
Clinical examination of the abdomen for liver and biliary disease		
Functional anatomy, physiology , liver function tests, basics of role of imaging of the hepatobiliary disease	√	
Major manifestations of liver disease <ul style="list-style-type: none"> <li>• ‘Asymptomatic’ abnormal liver function tests</li> <li>• Jaundice</li> <li>• Acute (fulminant) hepatic failure</li> <li>• Portal hypertension and ascites</li> <li>• Hepatic (porto-systemic encephalopathy)</li> </ul>	√	
Hepatorenal failure		√
Liver abscess- amoebic & pyogenic	√	
Acute and chronic hepatitis –viral and toxic	√	
Alcoholic liver disease	√	
Cirrhosis of liver and chronic liver disease	√	
Fatty liver and non alcoholic steatohepatitis		√
Infiltrative diseases of liver		√
Acute and chronic ‘cholecystitis’, cholelithiasis	√	
Tumors of gall bladder and bile ducts		√

## 15. Endocrine and Metabolic disorders

Course Contents	Must Know	Desirable to know
Diabetes mellitus: aetiopathogenesis, diagnosis, management, recognition of acute and chronic complications, and immediate management of acute complications , special problems in management	√	
Hypo and hyperthyroidism – major manifestations, recognition , interpretation of thyroid function tests	√	
Iodine deficiency disorders	√	
Cushing’s syndrome and Addison’s disease - recognition	√	
Pituitary disorders: Acromegaly and Sheehan’s syndromes		√
Calcium and phosphorus metabolism: parathyroid and metabolic bone Disease	√	
Hypogonadism		√
Hypopituitarism and hyperpituitarism		√
Hypothalamic disorders		√
Hypoparathyroidism and hyperparathyroidism		√

## 16. Hematological disorders

Course Contents	Must Know	Desirable to know
<b>Definition, prevalence, etiological factor, pathophysiology, pathology, recognition, investigations and principles of treatment of:</b> <ul style="list-style-type: none"> <li>• Anemias: iron deficiency, megaloblastic and common haemolytic anemias (thalassemia, sickle cell and acquired hemolytic)</li> <li>• Common bleeding disorders (thombocytopenia and hemophilia)</li> <li>• Agranulocytosis and aplastic anemia</li> </ul>	√	
Leukemias: Recognition, diagnosis, differential diagnosis and broad principles of management	√	
Lymphomas: Recognition , diagnosis , differential diagnosis and broad principles of management	√	
Blood group and transfusion: Major blood group systems and histo compatibility complex, concepts of transfusion and component therapy; indications for transfusion therapy, precautions to be taken during blood transfusion, hazards of transfusion and safe handling of blood and blood products	√	
Disorders of coagulation and venous thrombosis	√	
Bone marrow transplantation		√

## 17. Disorders of the Immune System, Connective Tissue and Joints

Course Contents	Must Know	Desirable to know
Introduction to the immune system and autoimmunity	√	
Primary immune deficiency diseases		√
HIV, AIDS and related disorders	√	
Recognition of major manifestations of musculoskeletal disease: Joint pain, bone pain, muscle pain and weakness, regional periarticular pain, back and neck pain	√	
Approach to articular and musculoskeletal disorders	√	
Inflammatory joint disease	√	
Infectious arthritis	√	
Inflammatory muscle disease		√
Osteoarthritis	√	
Systemic connective tissue diseases – systemic lupus erythematosus, rheumatoid arthritis, progressive systemic sclerosis	√	
Vasculitides		√
Ankylosing spondylitis, reactive arthritis and undifferentiated spondyloarthropathy		√
Sarcoidosis	√	
Amyloidosis	√	
Musculoskeletal manifestations of disease in other systems	√	
Diseases of bone		√

## 18. Neurological Diseases

Course Contents	Must Know	Desirable to know
Clinical examination of nervous system	√	
Functional anatomy, physiology and investigations : EEG, basics of brain and spinal cord imaging	√	
Major manifestations of nervous system disease: Headache and facial pain, raised intracranial tension, faintness, dizziness, syncope & vertigo, sleep disorders, disorders of movement, ataxia, sensory disturbances (numbness, tingling and sensory loss), acute confusional states, coma and brain death, aphasias and other focal cerebral disorders, speech, swallowing and brain-stem disturbance, visual disturbances, sphincter disturbances	√	
Migraine and cluster headaches	√	
Seizures and epilepsy	√	
Cerebrovascular disease	√	
Dementias including Alzheimer's disease	√	
Acute and chronic meningitis	√	
Viral encephalitis		√
Diseases of cranial nerves		√
Intracranial tumours		√
Diseases of spinal cord –transverse myelitis and cord compression	√	
Multiple sclerosis and other demyelinating diseases		√
Parkinson's disease and other extrapyramidal disorders		√
Cerebellar disorders	√	
Motor neuron disease		√
Peripheral neuropathy	√	
Neurological manifestations of system diseases	√	
Nutritional and metabolic diseases of the nervous system	√	
Myasthenia gravis and other diseases of neuromuscular junction		√
Diseases of muscle		√
Recognition of brain death	√	

## 19. Clinical Pharmacology and Therapeutics

<b>Course Contents</b>	<b>Must Know</b>	<b>Desirable to know</b>
Principles of drug therapy	√	
Adverse drug reactions	√	
Drug interactions	√	
Monitoring drug therapy	√	
Rational prescription writing	√	
Concept of essential drugs	√	

## 20. Critical Care Medicine

<b>Course Contents</b>	<b>Must Know</b>	<b>Desirable to know</b>
Physiology of the critically ill patient	√	
Recognition of major manifestations of critical illness circulatory failure: shock, respiratory failure, renal failure, coma sepsis, disseminated intravascular coagulation	√	
General principles of critical care management	√	
Scoring systems of critical care		√
Outcome and costs of intensive care		√
Ethical issues related to critical care	√	

## 21. Pain Management and Palliative Care

<b>Course Contents</b>	<b>Must Know</b>	<b>Desirable to know</b>
General principles of pain	√	
Assessment and treatment of pain	√	
Palliative care	√	



## 22. Geriatrics

Course Contents	Must Know	Desirable to know
Principles of Geriatric Medicine:	√	
Normal ageing	√	
Clinical assessment of frail elderly	√	
Decisions about investigations and rehabilitation	√	
Major manifestations of diseases in elderly	√	
Special issues for care of elderly	√	
Drug therapy in elderly	√	

## 23. Medical Ethics

Course Contents	Must Know	Desirable to know
Principles of medical ethics- Beneficence, non –maleficence, patient autonomy, equity Different concepts- health ethics, bioethics, public health ethics	√	
Brief introduction to perspectives of medical ethics: Hippocratic Oath, declaration of Helsinki, WHO declaration of Geneva, International code of Medical Ethics (1983), Medical Council of India Code of Ethics	√	
Ethics of the individual: Confidentiality, physician patient relationship, Patient autonomy, organ donation	√	
Death and dying, and Euthanasia	√	
Ethics of human life: In vitro fertilization, prenatal sex-determination, surrogate motherhood, genetic engineering	√	
Professional ethics: Code of conduct, fee charging and splitting, allocation of resources in health care	√	
Family and society in medical ethics: Family planning , Care of terminally ill/dying patient	√	
Ethical work up of cases: Gathering information, gain confidentiality, shared decision making, informed consent	√	
Research ethics: animal and experimental research, human experimentation, informed consent, drug trials	√	

Course Contents	Must Know	Desirable to know
Practice of universal precautions	√	
Bio medical waste: types, potential risks and their safe management	√	
PEP Prophylaxis	√	
Hand washing	√	

## 24. Medical Psychiatry

Course Contents	Must Know	Desirable to know
Classification of psychiatric disorders		
Aetiological factors in psychiatric disorders		
The clinical interview and mental state examination		
<p>Major manifestations of psychiatric illness</p> <ul style="list-style-type: none"> <li>• Disturbed and aggressive behavior</li> <li>• Delusions and hallucinations</li> <li>• Depressive Symptoms</li> <li>• Anxiety symptoms</li> <li>• Deliberate self-harm and suicidal ideation</li> <li>• Alcohol misuse and withdrawal</li> <li>• Misuse of drugs other than alcohol</li> <li>• Medically unexplained physically symptoms and functional somatic syndromes</li> <li>• Psychiatric and psychological aspects of chronic and progressive disease</li> </ul>		
<p>Clinical syndromes</p> <ul style="list-style-type: none"> <li>• Organic brain syndromes</li> <li>• Substance abuse <ul style="list-style-type: none"> <li>– Alcohol</li> <li>– Drugs</li> </ul> </li> <li>• Bipolar disorders</li> <li>• Depressive disorders</li> <li>• Schizophrenia</li> </ul>		
<p>Treatments used in psychiatry</p> <ul style="list-style-type: none"> <li>• Psychological treatments</li> <li>• Physical treatments</li> </ul>		
<p>Neurotic, stress-related and somatoform disorders</p> <ul style="list-style-type: none"> <li>• Anxiety</li> <li>• Obsessive compulsive disorders</li> <li>• Dissociative disorders</li> </ul>		
Sleep disorders		
Legal aspects of psychiatry		

## **Teaching and Learning methods**

### **Contents –**

1. Lectures
2. Small group discussions
3. Seminars
4. Algorithms
5. PBL
6. Videography
7. Integrated teachings
8. e-modules

### **Skills**

- a. Skill labs
- b. Real situations
- c. Role play
- d. Videography
- e. Problem based - paper cases
- f. Integrated teaching
- g. Field visits
- h. e-modules.