MALLA REDDY VISHWAVIDYAPEETH

SCHOOL OF ALLIED HEALTHCARE SCIENCES AND TECHNOLOGY

Suraram X Roads, Jeedimetla,
Hyderabad-500055
Web: https://mrvv.edu.in/

Program

Master of Physician Associate (MPA)

(Master of Clinical Medicine)

2026

MALLA REDDY VISHWAVIDYAPEETH
SCHOOL OF ALLIED HEALTHCARE SCIENCES & TECHNOLOGY

Master of Physician Associate (MPA)
(Master of Clinical Medicine)

VISION:

- To become a centre of excellence in Physician Associate education and clinical training.
- To develop competent and ethical healthcare professionals.
- To promote patient-centered and evidence-based healthcare practices.
- To support community health and preventive medicine initiatives.
- To encourage innovation, leadership, and lifelong learning in healthcare.

MISSION:

- To provide advanced academic and clinical education in medical sciences.
- To train Physician Associates in diagnostic, therapeutic, and preventive healthcare services.
- To develop professional ethics, communication skills, and teamwork abilities.
- To promote research, evidence-based practice, and critical thinking.
- To prepare graduates to meet healthcare needs in hospitals and communities.

PROGRAM EDUCATIONAL OBJECTIVES (PEO's):

- Apply advanced medical and clinical knowledge in patient care.
- Demonstrate professionalism, ethics, and effective communication.
- Work efficiently within multidisciplinary healthcare teams.
- Utilize research and evidence-based medicine in clinical practice.
- Provide quality healthcare services in diverse clinical settings.
- Engage in lifelong learning and professional development.

PROGRAM OUTCOMES (PO's):

- Demonstrate comprehensive knowledge of medical and clinical sciences.
- Perform patient assessment, clinical examination, and diagnostic procedures competently.
- Deliver safe, effective, and patient-centered healthcare services.
- Communicate effectively with patients, families, and healthcare professionals.
- Apply ethical principles, professionalism, and legal responsibilities in practice.
- Participate in research, community health, and evidence-based clinical decision-making.

PROGRAM SPECIFIC OUTCOMES (PSO's):

- Assist physicians in diagnosis and management of medical conditions.
- Perform clinical and emergency care procedures safely and effectively.
- Interpret laboratory investigations, imaging, and patient monitoring data.
- Provide support in outpatient, inpatient, surgical, and critical care settings.
- Participate in healthcare documentation, patient counselling, and research activities.
- Promote preventive healthcare and community health awareness programs.

COURSE OUTCOMES (CO's):

- Apply advanced medical knowledge and clinical skills in patient assessment, diagnosis, and management under physician supervision.
- Perform clinical procedures and interpret diagnostic investigations to provide safe and effective patient care.
- Demonstrate professionalism, ethical practice, communication skills, and teamwork in healthcare settings.
- Utilize evidence-based practice, research, and critical thinking for quality healthcare delivery and lifelong learning.

MALLA REDDY VISHWAVIDYAPEETH

SCHOOL OF ALLIED HEALTHCARE SCIENCES AND TECHNOLOGY

MASTER OF PHYSICIAN ASSOCIATE

(Master of Clinical Medicine)

COURSE STRUCTURE

I year I semester

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks		
							INT	EXT	TOTAL
1		Advanced Pathophysiology	4	-	-	4	25	75	100
2		Clinical Pharmacology	4	-	1	5	25	75	100
3		Clinical Diagnostics and Decision Making	2	-	1	3	25	75	100
4		Evidence-Based Medicine & Research Methods	2	-	1	3	25	75	100
5		Advanced Patient Assessment Skills	1	-	1	2	25	75	100
6		Core Clinical Medicine-I (systems based)	4	-	1	5	25	75	100
7		Medical Education-I	1	-	1	2	25	75	100
TOTAL			18	-	6	24	175	525	700

I year II semester

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks		
							INT	EXT	TOTAL
1		Emergency Medicine and Trauma Care	4	-	1	5	25	75	100
2		Critical Care and Intensive Care	3	-	1	4	25	75	100
3		Core Clinical Medicine-II (systems based)	2	-	2	4	25	75	100
4		Pediatrics	2	-	1	3	25	75	100
5		Surgical Skills and Postoperative Care	2	-	1	3	25	75	100
6		Pharmacology in special populations	2	-	-	2	25	75	100
7		Medical Education II	1	-	1	2	25	75	100
TOTAL			16	-	7	23	175	525	700

II year III semester

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks		
							INT	EXT	TOTAL
1		Palliative Care	2	-	1	3	25	75	100
2		Core Clinical Medicine III (systems based)	4	-	2	6	25	75	100
3		Geriatrics	2	-	2	4	25	75	100
4		Preventive medicine	3	-	1	4	25	75	100
5		Ethics, Communication, and Leadership Skills	2	-	1	3	25	75	100
6		Medical Education-III	1	-	1	2	25	75	100
TOTAL			14	-	8	22	150	450	600

II year IV semester

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks		
							INT	EXT	TOTAL
1		Core Clinical Medicine IV	4	-	3	7	25	75	100
2		Consents and Medico legal issues	3	-	2	5	25	75	100
3		Rehabilitative Medicine	2	-	1	3	25	75	100
4		Medical Education-IV	3	-	3	6	25	75	100
TOTAL			12	-	9	21	100	300	400

1.1 Post Graduate Programme

Sl. No.	Course	Duration	Eligibility for admission
1	Master of Physician Associate (MPA) (Master of Clinical Medicine)	2 years	Bachelor of Physician Associate or equivalent from a recognized university with minimum 5.5 CGPA

1.2. Medium of Instruction:

English shall be the medium of instruction for all subjects of study and for examinations.

1.3. Duration of the Course

Duration details are mentioned under clause no. 1.1 of this booklet.

1.4 Examination Regulations

1.4.1 Attendance: 75% of attendance (physical presence) is mandatory.

Medical leave or other types of sanctioned leaves will not be counted as physical presence. Attendance will be counted from the date of commencement of the session to the last day of the closing of attendance before the final examination.

1.4.2 Internal Assessments:

a) Regular periodic assessment shall be conducted throughout the course. In each semester there will be **two one-hour internal assessments (10 marks each)** and a continuous assessment (10 marks). Thus, a total of 30 marks for the internal exam. (i.e. weightage for internal assessment shall be 30% of the total marks in each subject).

b) **Exam pattern for internal assessment** in each semester will be

(a) Short questions 3 nos. out of which the student should write two questions each carrying 5 marks (i.e. 2 x 5=10 marks). Two such internal examinations will be conducted.

(b) Continuous assessment of the students will be made. Students' overall attendance, performance in class, behavior of the student, extra-curricular activities etc will be assessed. Continuous assessment carries 10 marks.

(d) Thus, a total of 30 marks for the internal examination. (10+10+10=30 marks). A candidate should secure a minimum of 40% marks in the internal assessment in each subject to be eligible to appear for the University examination

(e) For value added courses, only internal examinations will be conducted. The assessment comprised of five assignments/presentations/case presentations each carrying 10 (i.e. 5 x 10 = 50 marks). Final examination will be for 50 marks with 5 questions each carrying 10 marks (5 x 10 = 50 marks). The minimum pass is 40% marks.

1.4.3 University Examinations (External):

a) University Examination shall be conducted at the end of every semester.

b) A candidate who satisfies the requirement of attendance and internal assessment marks, as stipulated by the University shall be eligible to appear for the University Examination.

c) Examination will be of 3 hours duration (for theory). The question pattern for those subjects without practical examination (70 marks) will be (a) Three essay questions out of which the student should answer 2 questions each carrying 10 marks (i.e. 2 x 10 = 20 marks) (b) Eight short note questions out of which the student should attempt six questions, each carrying 5 marks (6 x 5 = 30 marks). (c) Ten very short questions each carrying 2 marks (i.e. 10 x 2 = 20 marks). Thus, a total of 70 marks.

d) The question pattern for practical examination (a) Spotters/major practical/minor practical/Viva/practical record.

The minimum pass for internal assessment is 40% and for the University Examination is 50%. i.e. a student should score a total of 50% (adding the internal and external examination) to pass in each subject.

SEMESTER I

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks		
							INT	EXT	TOTAL
1		Advanced Pathophysiology	4	-	-	4	25	75	100
2		Clinical Pharmacology	4	-	1	5	25	75	100
3		Clinical Diagnostics and Decision Making	2	-	1	3	25	75	100
4		Evidence-Based Medicine & Research Methods	2	-	1	3	25	75	100
5		Advanced Patient Assessment Skills	1	-	1	2	25	75	100
6		Core Clinical Medicine-I (systems based)	4	-	1	5	25	75	100
7		Medical Education-I	1	-	1	2	25	75	100
TOTAL			18	-	6	24	175	525	700

ADVANCED PATHOPHYSIOLOGY

L/TP/C
4/-/-/4

Learning objectives

The student will be able to:

1. Understand advanced mechanisms of disease at cellular, molecular, and systemic levels.
2. Correlate pathophysiological processes with clinical manifestations.
3. Apply disease mechanisms to clinical reasoning and diagnosis.
4. Integrate genetics, immunology, and environmental factors in disease development.
5. Analyze multi-system disorders and critical illness states.
6. Interpret laboratory and diagnostic findings in relation to disease processes.
7. Develop a foundation for evidence-based clinical management.

Learning Outcomes

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

1. Explain pathophysiological alterations in major organ systems.
2. Analyze the etiology, progression, and complications of diseases.
3. Correlate clinical symptoms with underlying pathological changes.
4. Apply knowledge in clinical case discussions and differential diagnosis.
5. Interpret investigations (lab/imaging) based on disease mechanisms.
6. Evaluate treatment rationale based on pathophysiology.
7. Demonstrate clinical decision-making in complex and critical conditions.

UNIT I: General Pathophysiology **(12 hours)**

- Cell injury and adaptation (atrophy, hypertrophy, apoptosis)
- Inflammation and healing
- Fluid, electrolyte, and acid-base imbalance
- Shock: types and pathogenesis
- Genetic and molecular basis of diseases

- Neoplasia: tumor biology and carcinogenesis

UNIT II: Cardiovascular & Respiratory Pathophysiology (12 hours)

Cardiovascular System

- Hypertension and vascular disorders
- Ischemic heart disease & myocardial infarction
- Heart failure and arrhythmias

Respiratory System

- Obstructive lung diseases (asthma, COPD)
- Restrictive lung disorders
- Respiratory failure and ARDS

UNIT III: Renal, Endocrine & Metabolic Disorders (12 hours)

Renal System

- Acute kidney injury (AKI)
- Chronic kidney disease (CKD)
- Glomerular diseases

Endocrine System

- Diabetes mellitus and complications
- Thyroid disorders
- Adrenal and pituitary disorders

Metabolic Disorders

- Acid-base imbalance
- Electrolyte disturbances
- Obesity and metabolic syndrome

UNIT IV: Neurological, Haematological & Immunological Disorders (12 hours)

Neurological System

- Stroke and cerebrovascular disease
- Neurodegenerative disorders
- Seizure disorders

Hematological System

- Anaemias
- Coagulation disorders
- Hematological malignancies

Immunological Disorders

- Hypersensitivity reactions
- Autoimmune diseases
- Immunodeficiency disorders

UNIT V: Gastrointestinal, Infectious & Critical Care Pathophysiology (12 hours)

Gastrointestinal System

- Liver diseases (hepatitis, cirrhosis)
- Peptic ulcer disease
- Inflammatory bowel disease

Infectious Diseases

- Sepsis and septic shock
- Systemic infections
- Emerging infections

Critical Care Pathophysiology

- Multi-organ dysfunction syndrome (MODS)
- Trauma and burns
- Pathophysiology of critical illness

REFERENCE TEXTBOOKS

Core Textbooks

1. McCance & Huether – *Pathophysiology: The Biologic Basis for Disease in Adults and Children*
2. Robbins & Cotran – *Pathologic Basis of Disease*
3. Copstead & Banasik – *Pathophysiology*
4. Braunwald – *Harrison's Principles of Internal Medicine*

Supplementary Books

1. Porth – *Essentials of Pathophysiology*
2. Kumar, Abbas & Aster – *Robbins Basic Pathology*
3. Lilly – *Pathophysiology of Heart Disease*
4. Fauci et al. – *Harrison's Manual of Medicine*

CLINICAL PHARMACOLOGY L/T/P/C

4/-/1/5

Learning Objectives

The student will be able to:

1. Understand the principles of pharmacokinetics and pharmacodynamics.
2. Apply drug knowledge for safe and effective patient care.
3. Recognize drug interactions, adverse drug reactions, and toxicity.
4. Develop skills in rational prescribing and dosage calculation.
5. Integrate pharmacological knowledge into clinical decision-making.
6. Understand special population pharmacology (paediatrics, geriatrics, pregnancy).
7. Interpret clinical guidelines and evidence-based drug therapy.

Learning Outcomes

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

1. Explain the mechanism of action, uses, and adverse effects of commonly used drugs.
2. Apply pharmacological principles in clinical case scenarios.
3. Prescribe medications safely with correct dose, route, and duration.
4. Identify and manage drug interactions and adverse drug reactions (ADRs).
5. Interpret prescriptions and modify therapy based on patient condition.
6. Apply pharmacology in emergency and critical care settings.
7. Demonstrate ethical and legal aspects of prescribing.

UNIT I: General Pharmacology (10 hours)

- Pharmacokinetics (absorption, distribution, metabolism, excretion)
- Pharmacodynamics (mechanism of action, receptors)
- Drug dosage forms and routes of administration
- Adverse drug reactions (ADR) and pharmacovigilance
- Drug interactions
- Clinical trials and drug regulation
- Principles of rational drug therapy

UNIT II: Cardiovascular & Respiratory Pharmacology (12 hours)

Cardiovascular Drugs

- Antihypertensives
- Antianginal drugs
- Drugs for heart failure
- Antiarrhythmic drugs
- Antiplatelet and anticoagulants

Respiratory Drugs

- Bronchodilators (asthma, COPD)
- Corticosteroids
- Antihistamines

- Drugs for cough

UNIT III: Endocrine, Renal & Gastrointestinal Pharmacology **(12 hours)**

Endocrine Drugs

- Antidiabetic drugs (insulin, oral agents)
- Thyroid and antithyroid drugs
- Steroids

Renal Drugs

- Diuretics
- Drugs affecting electrolyte balance

Gastrointestinal Drugs

- Antacids and antiulcer drugs
- Antiemetics
- Laxatives and antidiarrheal drugs

UNIT IV: CNS, Pain & Hematological Pharmacology **(12 hours)**

Central Nervous System Drugs

- Sedatives and hypnotics
- Antidepressants and antipsychotics
- Antiepileptics

Pain Management

- NSAIDs
- Opioids
- Local anaesthetics

Hematological Drugs

- Drugs for anaemia
- Anticoagulants and thrombolytics

UNIT V: Anti-infective & Clinical Therapeutics **(12 hours)**

Anti-infective Drugs

- Antibiotics (classification and rational use)
- Antiviral, antifungal, and antiparasitic drugs

Clinical Therapeutics

- Emergency drugs (anaphylaxis, cardiac arrest)
- Chemotherapy basics
- Immunization and vaccines
- Drug use in special populations
- Clinical case-based pharmacology

REFERENCE TEXTBOOKS

Core Textbooks

1. Goodman & Gilman – *The Pharmacological Basis of Therapeutics*
2. Katzung – *Basic & Clinical Pharmacology*
3. K.D. Tripathi – *Essentials of Medical Pharmacology*
4. Rang & Dale – *Pharmacology*

Supplementary Books

1. Lippincott – *Illustrated Reviews: Pharmacology*
2. Sharma & Sharma – *Clinical Pharmacology Made Easy*
3. Harrison's – *Manual of Medicine* (for clinical correlation)
4. WHO – *Guide to Good Prescribing*

Practical Syllabus **(15 hours)**

1. Prescription writing and interpretation (dose, route, frequency)
2. Dosage calculation (adult, paediatric, weight-based dosing)

3. Identification and reporting of adverse drug reactions (ADR forms)
4. Drug interaction analysis using case scenarios
5. Preparation and administration techniques (oral, IV, IM drugs)
6. Therapeutic drug monitoring basics (e.g., narrow therapeutic index drugs)
7. Clinical case discussions for rational drug therapy
8. Emergency drug usage (anaphylaxis, cardiac arrest drugs)
9. Drug chart review and medication reconciliation
10. Patient counselling on drug use, compliance, and safety

CLINICAL DIAGNOSTICS AND DECISION-MAKING L/T/P/C

2/-/1/3

Learning Objectives

The student will be able to:

1. Understand the principles of clinical diagnostics and interpretation of investigations.
2. Develop skills in systematic clinical assessment and problem identification.
3. Apply clinical reasoning and decision-making models in patient care.
4. Interpret laboratory, imaging, and bedside diagnostic tests accurately.
5. Integrate history, examination, and investigations to arrive at diagnosis.
6. Prioritize differential diagnoses and plan appropriate management.
7. Apply evidence-based medicine (EBM) in clinical decisions.

Learning Outcomes

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

1. Perform structured clinical evaluation and diagnostic workup.
2. Interpret laboratory reports and imaging findings effectively.
3. Formulate differential diagnoses based on clinical data.
4. Apply clinical reasoning in acute and chronic conditions.
5. Make appropriate clinical decisions and management plans.
6. Use diagnostic algorithms and clinical guidelines.
7. Demonstrate decision-making skills in emergency and critical care scenarios.

UNIT I: Principles of Clinical Diagnostics (6 hours)

- Steps in clinical diagnosis (history, examination, investigations)
- Clinical reasoning and decision-making models
- Evidence-based medicine (EBM) principles
- Diagnostic errors and bias in clinical practice
- Sensitivity, specificity, predictive values
- Screening vs diagnostic tests

UNIT II: Laboratory Diagnostics (6 hours)

- Hematological investigations (CBC, coagulation profile)
- Biochemical tests (LFT, RFT, electrolytes, glucose)
- Microbiological investigations (culture, sensitivity)
- Immunological and serological tests
- Interpretation of ABG (arterial blood gas)
- Point-of-care testing

UNIT III: Imaging and Advanced Diagnostics (6 hours)

- Principles of radiology (X-ray, CT, MRI, Ultrasound)
- ECG interpretation basics
- Echocardiography basics
- Endoscopy and other diagnostic procedures
- Interpretation of imaging findings in common conditions

UNIT IV: Clinical Decision Making & Case-Based Approach (6 hours)

- Clinical problem-solving techniques
- Diagnostic algorithms and pathways
- Differential diagnosis formulation
- Risk assessment and prognostic scoring systems
- Case-based discussions (cardiac, respiratory, endocrine, infectious diseases)

UNIT V: Emergency, Critical Care & Ethical Decision Making **(6 hours)**

- Rapid assessment and triage
- Decision making in emergencies (shock, cardiac arrest, stroke)
- Use of clinical protocols (ACLS, BLS concepts)
- Ethical and legal aspects in decision making
- Communication and shared decision making with patients
- Clinical audit and quality improvement

REFERENCE TEXTBOOKS

Core Textbooks

1. McGee – *Evidence-Based Physical Diagnosis*
2. Symptom to Diagnosis – Stern, Cifu, Altkorn
3. Harrison's – *Principles of Internal Medicine*
4. Kumar & Clark – *Clinical Medicine*

Supplementary Books

1. Macleod's – *Clinical Examination*
2. Bates – *Guide to Physical Examination and History Taking*
3. Oxford Handbook of Clinical Medicine
4. Wallace – *Clinical Decision Making in Medicine*

Practical Syllabus **(15 hours)**

1. Structured clinical history taking and physical examination
2. Interpretation of routine laboratory investigations (CBC, LFT, RFT, electrolytes)
3. Arterial Blood Gas (ABG) analysis and interpretation
4. Basic ECG interpretation and identification of common abnormalities
5. Interpretation of imaging (X-ray, ultrasound, CT basics)
6. Formulation of differential diagnosis from clinical cases
7. Use of diagnostic algorithms and clinical pathways
8. Case-based clinical reasoning and decision-making exercises
9. Emergency assessment and triage (BLS/ACLS basics)
10. Patient case documentation, presentation, and clinical audit basics

EVIDENCE-BASED MEDICINE & RESEARCH METHODS L/T/P/C

2/-/1/3

Learning Objectives

The student will be able to:

1. Understand the principles and importance of Evidence-Based Medicine (EBM) in clinical practice.
2. Develop skills in formulating research questions and literature searching.
3. Critically appraise scientific literature and clinical studies.
4. Understand different research designs and methodologies.
5. Apply biostatistical concepts in interpreting research data.
6. Integrate clinical expertise with best available evidence and patient values.
7. Conduct basic research and prepare research proposals and reports.

Learning Outcomes

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

1. Apply EBM principles in clinical decision-making.
2. Formulate structured clinical questions using PICO format.
3. Search and retrieve relevant literature from medical databases.
4. Critically evaluate research articles for validity and applicability.
5. Interpret basic statistical results (p-value, confidence interval, risk measures).
6. Design and conduct basic research studies.
7. Demonstrate understanding of research ethics and scientific writing.

UNIT I: Introduction to Evidence-Based Medicine **(6 hours)**

- Definition and importance of EBM
- Steps in EBM (Ask, Acquire, Appraise, Apply, Assess)
- Formulating clinical questions (PICO format)
- Sources of evidence (primary, secondary, tertiary)
- Hierarchy of evidence

UNIT II: Research Methodology **(6 hours)**

- Types of research (qualitative, quantitative, mixed methods)
- Study designs (observational, experimental)
- Randomized controlled trials (RCTs)
- Cohort, case-control, cross-sectional studies
- Sampling methods and sample size
- Variables and data collection methods

UNIT III: Biostatistics for Clinical Research **(6 hours)**

- Types of data and variables
- Descriptive statistics (mean, median, mode, SD)
- Inferential statistics (hypothesis testing)
- p-value, confidence interval
- Sensitivity, specificity, predictive values
- Risk measures (RR, OR)

UNIT IV: Critical Appraisal & Literature Review **(6 hours)**

- Reading and understanding research articles
- Critical appraisal of clinical trials and observational studies
- Systematic reviews and meta-analysis
- Bias, confounding, and validity
- Literature search strategies (PubMed, Cochrane, Google Scholar)

UNIT V: Research Ethics, Scientific Writing & Application **(6 hours)**

- Ethical principles in research (consent, confidentiality)
- Institutional Ethics Committee (IEC)
- Good Clinical Practice (GCP) guidelines
- Writing research proposal and thesis
- Referencing styles (Vancouver, APA)
- Plagiarism and publication ethics
- Translating evidence into clinical practice

REFERENCE TEXTBOOKS

Core Textbooks

1. Sackett – *Evidence-Based Medicine: How to Practice and Teach EBM*
2. Hulley et al. – *Designing Clinical Research*
3. Greenhalgh – *How to Read a Paper: The Basics of Evidence-Based Medicine*
4. Fletcher – *Clinical Epidemiology: The Essentials*

Supplementary Books

1. Dawson & Trapp – *Basic & Clinical Biostatistics*
2. Kothari – *Research Methodology: Methods and Techniques*
3. Oxford Handbook of Clinical Medicine (EBM sections)
4. Cochrane Handbook for Systematic Reviews of Interventions

Practical Syllabus **(15 hours)**

1. Formulation of clinical questions using PICO format
2. Literature search using databases (PubMed, Google Scholar, Cochrane)
3. Identification of study designs in published articles
4. Basic data entry and tabulation for research studies
5. Calculation and interpretation of basic statistics (mean, SD, p-value)
6. Critical appraisal of a research article (validity and applicability)
7. Preparation of a simple research proposal
8. Referencing and citation using standard styles (Vancouver/APA)
9. Identification of bias and ethical issues in research
10. Presentation of research findings (seminar/poster)

ADVANCED PATIENT ASSESSMENT SKILLS L/T/P/C
1/-/1/2

Learning Objectives

The student will be able to:

1. Develop advanced skills in comprehensive patient history taking and physical examination.
2. Perform systematic and focused clinical assessments across all age groups.
3. Identify normal and abnormal clinical findings.
4. Integrate clinical data to formulate differential diagnoses.
5. Apply clinical reasoning and communication skills in patient interactions.
6. Perform bedside procedures and assessment techniques safely.
7. Document clinical findings accurately and effectively.

Learning Outcomes

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

1. Conduct complete and focused patient assessments in various clinical settings.
2. Demonstrate proficiency in physical examination techniques.
3. Identify and interpret clinical signs and symptoms.
4. Formulate differential diagnoses based on assessment findings.
5. Communicate effectively with patients and healthcare teams.
6. Perform and interpret basic bedside clinical procedures.
7. Maintain accurate clinical documentation and records.

UNIT I: Principles of Patient Assessment (3 hours)

- Components of patient assessment (history, examination, documentation)
- Communication skills and patient interviewing techniques
- Medical ethics and professionalism
- Cultural competence in patient care
- Clinical reasoning and decision-making basics

UNIT II: General & Systemic Physical Examination (3 hours)

- General physical examination (vital signs, anthropometry)
- Skin, head, neck examination
- Cardiovascular system examination
- Respiratory system examination
- Abdominal examination
- Musculoskeletal system examination

UNIT III: Advanced System-Based Assessment (3 hours)

- Neurological examination
- Endocrine system assessment
- Hematological and lymphatic system examination
- Paediatric and geriatric assessment
- Obstetric and gynecological assessment basics

UNIT IV: Diagnostic & Bedside Assessment Skills (3 hours)

- Interpretation of vital signs and clinical parameters
- ECG basics and interpretation
- Bedside diagnostic procedures (urinalysis, glucometry)
- Pain assessment and scoring systems
- Nutritional assessment
- Functional assessment (ADL, risk scoring systems)

UNIT V: Clinical Application & Case-Based Assessment (3 hours)

- Case-based clinical assessment
- Differential diagnosis formulation
- Emergency assessment (ABCDE approach)
- Triage and prioritization
- Documentation and clinical reporting
- OSCE-based practice and simulation

REFERENCE TEXTBOOKS

Core Textbooks

1. Bates – *Guide to Physical Examination and History Taking*
2. Macleod's – *Clinical Examination*
3. Talley & O'Connor – *Clinical Examination: A Systematic Guide*
4. Swartz – *Textbook of Physical Diagnosis*

Supplementary Books

1. Hutchison's – *Clinical Methods*
2. Seidel – *Mosby's Guide to Physical Examination*
3. Oxford Handbook of Clinical Medicine
4. DeGowin – *Diagnostic Examination*

Practical Syllabus **(15 hours)**

1. Comprehensive patient history taking and documentation
2. General physical examination (vital signs, BMI, anthropometry)
3. Systemic examination (cardiovascular, respiratory, abdominal, musculoskeletal)
4. Neurological examination and assessment of higher functions
5. Paediatric and geriatric patient assessment techniques
6. Interpretation of clinical signs and abnormal findings
7. Bedside procedures (glucometry, urinalysis, basic monitoring)
8. ECG recording and basic interpretation
9. Emergency assessment using ABCDE approach and triage
10. Case presentation, differential diagnosis, and clinical documentation

CORE CLINICAL MEDICINE – I (SYSTEMS BASED) L/T/P/C 4/-/1/5

Learning Objectives

The student will be able to:

1. Understand the clinical presentation, diagnosis, and management of common diseases in major organ systems.
2. Integrate basic sciences (anatomy, physiology, pathology, pharmacology) with clinical practice.
3. Develop skills in clinical reasoning and differential diagnosis.
4. Interpret clinical signs, symptoms, and diagnostic investigations.
5. Apply evidence-based guidelines in patient management.
6. Recognize emergency conditions and initiate appropriate care.
7. Communicate effectively with patients and healthcare teams.

Learning Outcomes

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

1. Evaluate patients with system-based clinical approach.
2. Diagnose common diseases based on history, examination, and investigations.
3. Formulate differential diagnoses and management plans.
4. Interpret laboratory and imaging findings.
5. Initiate appropriate treatment and referral when necessary.
6. Manage common and emergency clinical conditions.
7. Demonstrate clinical decision-making skills in real-life scenarios.

UNIT I: Cardiovascular System (12 hours)

- Approach to cardiovascular symptoms (chest pain, dyspnoea, palpitations)
- Hypertension
- Ischemic heart disease and myocardial infarction
- Heart failure
- Arrhythmias
- Valvular heart diseases
- Basics of ECG interpretation

UNIT II: Respiratory System (12 hours)

- Approach to respiratory symptoms (cough, breathlessness, haemoptysis)
- Bronchial asthma
- Chronic obstructive pulmonary disease (COPD)
- Pneumonia and tuberculosis
- Pleural diseases
- Respiratory failure

UNIT III: Gastrointestinal & Hepatobiliary System (12 hours)

- Approach to abdominal pain, vomiting, jaundice
- Gastroesophageal reflux disease (GERD)
- Peptic ulcer disease
- Liver diseases (hepatitis, cirrhosis)
- Gallbladder and pancreatic disorders
- Inflammatory bowel disease

UNIT IV: Renal & Endocrine System (12 hours)

- Acute kidney injury (AKI)
- Chronic kidney disease (CKD)
- Urinary tract infections

Endocrine System

- Diabetes mellitus and complications
- Thyroid disorders
- Adrenal disorders

UNIT V: Infectious Diseases & Emergency Medicine **(12 hours)**

Infectious Diseases

- Common bacterial and viral infections
- Fever of unknown origin (FUO)
- Sepsis and septic shock

Emergency Medicine

- Approach to critically ill patient
- Shock management
- Basic life support (BLS) and ACLS concepts
- Poisoning and overdose

REFERENCE TEXTBOOKS

Core Textbooks

1. Harrison's – *Principles of Internal Medicine*
2. Kumar & Clark – *Clinical Medicine*
3. Davidson's – *Principles and Practice of Medicine*
4. Oxford Handbook of Clinical Medicine

Supplementary Books

1. API Textbook of Medicine (India-focused)
2. Hutchison's – *Clinical Methods*
3. Talley & O'Connor – *Clinical Examination*
4. Braunwald – *Heart Disease* (for cardiology reference)

Practical Syllabus – Core Clinical Medicine I **(15 hours)**

1. History taking and patient communication
2. General physical and systemic examination
3. Cardiovascular examination and BP recording
4. ECG recording and basic interpretation
5. Respiratory examination and pulse oximetry
6. Abdominal and hepatobiliary examination
7. Urine analysis and blood glucose monitoring
8. Interpretation of common laboratory investigations
9. Basic emergency care, BLS, and shock management
10. Case presentation and differential diagnosis formulation

MEDICAL EDUCATION – I L/T/P/C 1/-/1/2

Learning Objectives

The student will be able to:

1. Understand the structure and functioning of clinical departments and healthcare teams.
2. Develop skills in basic patient care and clinical assistance.
3. Apply communication skills in patient interaction and teamwork.
4. Observe and participate in clinical procedures and ward activities.
5. Learn clinical documentation and case presentation methods.
6. Develop professionalism, ethics, and responsibility in patient care.

Learning Outcomes

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

1. Participate effectively in clinical postings and ward routines.
2. Perform basic patient assessment under supervision.
3. Assist in common clinical procedures.
4. Maintain patient records and case sheets accurately.
5. Present clinical cases in a structured manner.
6. Demonstrate professional behavior and communication skills.
7. Work as part of a multidisciplinary healthcare team.

Syllabus (TOTAL HOURS: 30 HOURS)

1. **Ward Posting Activities**
   - Participation in ward rounds
   - Patient observation and follow-up
2. **History Taking Practice**
   - Eliciting complete and focused patient history
3. **Basic Physical Examination**
   - General examination and vital signs
   - Systemic examination (under supervision)
4. **Case Presentation**
   - Bedside case presentation
   - Clinical discussion with faculty
5. **Clinical Documentation**
   - Case sheet writing
   - Progress notes and discharge summaries
6. **Assisting in Clinical Procedures**
   - IV line insertion (observation/assistance)
   - Sample collection (blood, urine)
7. **Outpatient Department (OPD) Exposure**
   - Patient triage and initial assessment
   - Observing consultation and management
8. **Emergency/ICU Exposure**
   - Basic life support (BLS) observation
   - Emergency patient assessment
9. **Interprofessional Teamwork**
   - Working with doctors, nurses, and allied health staff
   - Understanding roles in patient care
10. **Professionalism & Ethics in Practice**

- Patient confidentiality
- Informed consent and respectful communication

REFERENCE TEXTBOOKS

Core Books

1. Bates – *Guide to Physical Examination and History Taking*
2. Macleod's – *Clinical Examination*
3. Hutchison's – *Clinical Methods*

Supplementary Books

1. Oxford Handbook of Clinical Medicine
2. Talley & O'Connor – *Clinical Examination*
3. Swartz – *Textbook of Physical Diagnosis*

SEMESTER-II

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks		
							INT	EXT	TOTAL
1		Emergency Medicine and Trauma Care	4	-	1	5	25	75	100
2		Critical Care and Intensive Care	3	-	1	4	25	75	100
3		Core Clinical Medicine-II (systems based)	2	-	2	4	25	75	100
4		Pediatrics	2	-	1	3	25	75	100
5		Surgical Skills and Postoperative Care	2	-	1	3	25	75	100
6		Pharmacology in special populations	2	-	-	2	25	75	100
7		Medical Education II	1	-	1	2	25	75	100
TOTAL			16	-	7	23	175	525	700

EMERGENCY MEDICINE AND TRAUMA CARE L/T/P/C 4/-/1/5

Learning Objectives

The student will be able to:

1. Understand the principles of emergency medicine and trauma management.
2. Perform rapid assessment and stabilization of critically ill patients.
3. Apply ABCDE approach in emergency situations.
4. Recognize and manage life-threatening conditions promptly.
5. Develop skills in basic and advanced life support.
6. Assist in trauma resuscitation and emergency procedures.
7. Understand triage, disaster management, and pre-hospital care.

Learning Outcomes

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

1. Perform primary and secondary survey in trauma patients.
2. Initiate emergency management and stabilization.
3. Demonstrate skills in BLS and basic airway management.
4. Identify and manage common medical and surgical emergencies.
5. Assist in trauma care and emergency procedures.
6. Apply triage principles in mass casualty situations.
7. Work effectively in emergency and multidisciplinary teams.

UNIT I: Principles of Emergency Medicine **(12 hours)**

- Organization of emergency services
- Triage and prioritization
- Primary survey (ABCDE approach)
- Secondary survey
- Basic life support (BLS)
- Introduction to Advanced Cardiac Life Support (ACLS)

UNIT II: Trauma Care **(12 hours)**

Principles of trauma management (ATLS approach)

- Head injury and traumatic brain injury
- Chest trauma (pneumothorax, Hemothorax)
- Abdominal trauma
- Orthopedic trauma and fractures
- Spinal injuries

UNIT III: Medical Emergencies **(12 hours)**

- Cardiac emergencies (MI, arrhythmias, cardiac arrest)
- Respiratory emergencies (asthma, COPD exacerbation)
- Neurological emergencies (stroke, seizures)
- Metabolic emergencies (DKA, hypoglycaemia)
- Poisoning and drug overdose

UNIT IV: Emergency Procedures & Critical Care **(12 hours)**

- Airway management (basic airway devices)
- Oxygen therapy and ventilation basics
- IV access and fluid resuscitation
- ECG monitoring and interpretation basics
- Wound care and suturing
- Shock management

UNIT V: Disaster Management & Special Situations **(12 hours)**

- Disaster preparedness and management
- Mass casualty incidents
- Pre-hospital care and ambulance services
- Paediatric and geriatric emergencies
- Medico-legal aspects in emergency care
- Communication and teamwork in emergencies

REFERENCE TEXTBOOKS

Core Textbooks

1. Tintinalli – *Emergency Medicine: A Comprehensive Study Guide*
2. ATLS – *Advanced Trauma Life Support Manual*
3. Rosen's – *Emergency Medicine: Concepts and Clinical Practice*
4. Oxford Handbook of Emergency Medicine

Supplementary Books

1. Walls – *Manual of Emergency Airway Management*
2. Marx – *Rosen's Emergency Medicine Review*
3. ACLS Provider Manual (AHA Guidelines)
4. WHO – *Emergency Care Systems Framework*

Practical Syllabus – Core Emergency Medicine and Trauma Care **(15 hours)**

1. Triage and emergency patient assessment
2. ABCDE approach and primary survey
3. Basic life support (BLS) and CPR
4. Airway management and oxygen therapy
5. IV cannulation and fluid resuscitation
6. ECG monitoring and basic interpretation
7. Trauma assessment and immobilization techniques
8. Wound dressing, bandaging, and suturing basics
9. Shock management and emergency drug administration
10. Disaster management and mass casualty triage

CRITICAL CARE AND INTENSIVE CARE L/T/P/C 3/-/1/4

Learning Objectives

The student will be able to:

1. Understand the principles of critical care medicine and ICU management.
2. Perform systematic assessment and monitoring of critically ill patients.
3. Recognize and manage life-threatening conditions and organ failure.
4. Apply knowledge of hemodynamic monitoring and ventilatory support.
5. Assist in critical care procedures and interventions.
6. Interpret laboratory and bedside monitoring data in ICU settings.
7. Demonstrate teamwork, communication, and ethical decision-making in critical care.

Learning Outcomes

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

1. Perform initial assessment and stabilization of critically ill patients.
2. Monitor and interpret vital parameters and ICU data.
3. Assist in the management of respiratory failure, shock, and organ dysfunction.
4. Demonstrate basic skills in ventilator support and airway management.
5. Identify and manage common ICU emergencies.
6. Apply infection control and ICU protocols.
7. Communicate effectively with patients, families, and healthcare teams.

UNIT I: Principles of Critical Care (6 hours)

- Organization and functioning of ICU
- Approach to critically ill patient
- Monitoring in ICU (vital signs, invasive and non-invasive monitoring)
- Fluid and electrolyte management
- Acid-base balance
- Nutrition in critically ill patients

UNIT II: Respiratory & Cardiovascular Critical Care (6 hours)

Respiratory Care

- Acute respiratory failure
- Oxygen therapy and ventilatory support
- Basics of mechanical ventilation
- ARDS

Cardiovascular Care

- Shock (types and management)
- Hemodynamic monitoring
- Cardiac failure in ICU
- Arrhythmias in critical care

UNIT III: Neurological & Renal Critical Care (6 hours)

Neurological Care

- Coma and altered sensorium
- Stroke management in ICU
- Seizures and status epilepticus

Renal Care

- Acute kidney injury (AKI)
- Renal replacement therapy (dialysis basics)
- Fluid balance management

UNIT IV: Infection, Sepsis & Multiorgan Dysfunction (6 hours)

- ICU infections and antimicrobial therapy
- Infection control and prevention

- Multi-organ dysfunction syndrome (MODS)
- Toxicology and poisoning management

UNIT V: Procedures, Ethics & End-of-Life Care **(6 hours)**

- ICU procedures (airway management, central line, ABG sampling)
- Pain management and sedation
- Ethical issues in ICU (consent, withdrawal of care)
- End-of-life care and palliative care
- Communication with family members
- Documentation and medico-legal aspects

REFERENCE TEXTBOOKS

Core Textbooks

1. Marino – *The ICU Book*
2. Irwin & Rippe – *Intensive Care Medicine*
3. Oh's – *Intensive Care Manual*
4. Oxford Handbook of Critical Care

Supplementary Books

1. Hall – *Guyton and Hall Textbook of Medical Physiology* (for concepts)
2. Harrison's – *Principles of Internal Medicine*
3. Manual of ICU Procedures – Parag Dekate / similar clinical manuals
4. SCCM Guidelines (Society of Critical Care Medicine)

Practical Syllabus – Critical Care and Intensive Care **(15 hours)**

1. ICU patient assessment and monitoring
2. Recording and interpretation of vital signs
3. Oxygen therapy and airway management
4. Basics of mechanical ventilation
5. ABG sampling and interpretation
6. Fluid, electrolyte, and acid-base management
7. Shock assessment and hemodynamic monitoring
8. Infection control and ICU aseptic protocols
9. CPR, emergency response, and ICU procedures assistance
10. Case presentation, documentation, and team communication

CORE CLINICAL MEDICINE – II (SYSTEMS BASED) L/T/P/C

Learning Objectives **2/-/2/4**

The student will be able to:

1. Understand the clinical features, diagnosis, and management of diseases in advanced and remaining organ systems.
2. Integrate clinical knowledge with diagnostic and therapeutic approaches.
3. Develop skills in clinical reasoning and differential diagnosis.
4. Interpret laboratory and imaging findings in complex conditions.
5. Recognize systemic and multisystem disorders.
6. Apply evidence-based clinical guidelines in patient care.
7. Manage common and emergency clinical conditions effectively.

Learning Objectives

The student will be able to:

1. Understand the clinical features, diagnosis, and management of diseases in advanced and remaining organ systems.
2. Integrate clinical knowledge with diagnostic and therapeutic approaches.
3. Develop skills in clinical reasoning and differential diagnosis.
4. Interpret laboratory and imaging findings in complex conditions.
5. Recognize systemic and multisystem disorders.
6. Apply evidence-based clinical guidelines in patient care.
7. Manage common and emergency clinical conditions effectively.

UNIT I: Neurology **(6 hours)**

- Approach to neurological symptoms (headache, seizures, weakness)
- Stroke and cerebrovascular diseases
- Epilepsy and seizure disorders
- Neurodegenerative disorders (Parkinsonism, Alzheimer's)
- Peripheral neuropathy
- CNS infections (meningitis, encephalitis)

UNIT II: Hematology **(6 hours)**

- Approach to anaemia
- Iron deficiency anaemia, megaloblastic anaemia
- Haemolytic anaemia
- Bleeding and coagulation disorders
- Leukaemia and lymphoma
- Blood transfusion and reactions

UNIT III: Musculoskeletal & Rheumatology **(6 hours)**

- Approach to joint pain and swelling
- Osteoarthritis and rheumatoid arthritis
- Systemic lupus erythematosus (SLE)
- Gout and metabolic bone diseases
- Spondyloarthropathies

UNIT IV: Dermatology & Psychiatry **(6 hours)**

Dermatology

- Approach to skin lesions
- Common skin disorders (eczema, psoriasis, infections)
- Drug reactions and allergic conditions

Psychiatry

- Depression and anxiety disorders
- Schizophrenia and psychotic disorders
- Substance abuse
- Basics of psychiatric assessment

UNIT V: Oncology & Miscellaneous Disorders **(6 hours)**

Oncology

- Principles of cancer biology
- Common cancers (lung, breast, GI)
- Basics of chemotherapy and radiotherapy

Miscellaneous

- Nutritional disorders
- Geriatric medicine
- Preventive medicine and screening
- Palliative care basics

REFERENCE TEXTBOOKS

Core Textbooks

1. Harrison's – *Principles of Internal Medicine*
2. Kumar & Clark – *Clinical Medicine*
3. Davidson's – *Principles and Practice of Medicine*
4. Oxford Handbook of Clinical Medicine

Supplementary Books

1. API Textbook of Medicine
2. Hutchison's – *Clinical Methods*
3. Talley & O'Connor – *Clinical Examination*
4. DeVita – *Cancer: Principles & Practice of Oncology*

Practical Syllabus – Core Clinical Medicine II **(30 hours)**

1. Neurological history taking and examination
2. Assessment of stroke, seizures, and altered sensorium
3. Hematological investigations and peripheral smear interpretation
4. Blood grouping, crossmatching, and transfusion monitoring
5. Musculoskeletal and joint examination
6. Examination of skin lesions and dermatological conditions
7. Mental status examination and psychiatric assessment
8. Interpretation of CT, MRI, and relevant laboratory investigations
9. Cancer screening, palliative care, and pain assessment
10. Case presentation, differential diagnosis, and management planning

PEDIATRICS **L/T/P/C**

Learning Objectives **2/-/1/3**

The student will be able to:

1. Understand the growth and development of children from neonate to adolescence.
2. Identify and manage common paediatric diseases and conditions.
3. Perform paediatric history taking and physical examination.
4. Recognize neonatal and paediatric emergencies.
5. Apply immunization schedules and preventive paediatrics.
6. Interpret paediatric laboratory and diagnostic findings.
7. Communicate effectively with children and caregivers.

Learning Outcomes

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

1. Assess growth and developmental milestones in children.
2. Perform complete paediatric clinical examination.
3. Diagnose and manage common paediatric illnesses.
4. Identify nutritional deficiencies and manage them.
5. Provide immunization and preventive healthcare.
6. Manage common paediatric emergencies under supervision.
7. Demonstrate communication and counseling skills with parents.

UNIT I: Growth, Development & Neonatology **(6 hours)**

- Growth and development milestones
- Developmental assessment
- Neonatal physiology and care
- Common neonatal problems (jaundice, sepsis, birth asphyxia)
- Breastfeeding and newborn nutrition

UNIT II: Nutrition & Preventive Paediatrics **(6 hours)**

- Infant and child nutrition
- Malnutrition and its management
- Vitamin and mineral deficiencies
- National immunization schedule
- Preventive paediatrics and health promotion

UNIT III: Paediatric Infectious Diseases **(6 hours)**

- Common infections (respiratory, gastrointestinal, urinary)
- Tuberculosis in children
- Vaccine-preventable diseases
- Fever in children
- Paediatric HIV and emerging infections

UNIT IV: Systemic Paediatric Disorders **(6 hours)**

- Respiratory diseases (asthma, pneumonia)
- Gastrointestinal disorders (diarrhoea, vomiting)
- Cardiovascular disorders (congenital heart disease basics)
- Neurological disorders (seizures, developmental delay)
- Hematological disorders (anaemia)

UNIT V: Paediatric Emergencies & Special Topics **(6 hours)**

- Paediatric emergencies (shock, dehydration, seizures)
- Paediatric poisoning and accidents
- Paediatric endocrine disorders
- Adolescent health
- Paediatric counseling and communication
- Child abuse and ethical issues

REFERENCE TEXTBOOKS

Core Textbooks

1. Ghai – *Essential Paediatrics*
2. Nelson – *Textbook of Paediatrics*
3. OP Ghai – *Practical Paediatrics*
4. IAP – *Textbook of Paediatrics*

Supplementary Books

1. Meharban Singh – *Care of the Newborn*
2. Illustrated Textbook of Paediatrics – Tom Lissauer
3. WHO – *Child Growth Standards*
4. Oxford Handbook of Paediatrics

Practical Syllabus – Paediatrics **(15 hours)**

1. Paediatric history taking and communication with parents
2. Growth monitoring and developmental assessment
3. Neonatal examination and newborn care
4. Assessment of nutritional status and malnutrition
5. Immunization techniques and vaccine schedule assessment
6. Paediatric systemic examination
7. Interpretation of paediatric laboratory investigations
8. Management of dehydration and paediatric emergencies
9. Paediatric drug dosage calculation and administration
10. Case presentation, counseling, and preventive health education

SURGICAL SKILLS AND POSTOPERATIVE CARE L/T/P/C 2/-/1/3

Learning Objectives

The student will be able to:

1. Understand the principles of surgical care and asepsis.
2. Develop basic surgical skills and procedural competencies.
3. Assist effectively in preoperative, intraoperative, and postoperative care.
4. Recognize and manage postoperative complications.
5. Apply knowledge of wound care, suturing, and infection control.
6. Interpret clinical signs and monitoring parameters in surgical patients.
7. Demonstrate teamwork, communication, and ethical practice in surgical settings.

Learning Outcomes

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

1. Demonstrate basic surgical techniques under supervision.
2. Maintain aseptic techniques and infection control practices.
3. Assist in common surgical procedures.
4. Provide preoperative and postoperative patient care.
5. Identify and manage surgical complications.
6. Perform wound care and basic suturing.
7. Document and communicate effectively in surgical settings.

UNIT I: Principles of Surgery (6 hours)

- Surgical asepsis and sterilization
- Operation theatre (OT) protocols
- Surgical instruments and their uses
- Preoperative evaluation and preparation
- Informed consent and ethical issues

UNIT II: Basic Surgical Skills (6 hours)

- Hand washing and sterile techniques
- Suturing techniques and knot tying
- Wound care and dressing
- Bandaging and splinting
- Drain insertion and care

UNIT III: Intraoperative Care & Assistance (6 hours)

- Roles of surgical team members
- Patient positioning
- Assisting in minor and major surgeries
- Anesthesia basics and monitoring
- Fluid management during surgery

UNIT IV: Postoperative Care (6 hours)

- Immediate postoperative monitoring
- Pain management
- Fluid and electrolyte management
- Nutrition in postoperative patients
- Postoperative complications (infection, bleeding, DVT)

UNIT V: Surgical Emergencies & Specialized Care (6 hours)

- Acute abdomen
- Trauma and wound management
- Burns management
- Surgical infections

- Basics of laparoscopic surgery
- ICU care for surgical patients

REFERENCE TEXTBOOKS

Core Textbooks

1. Bailey & Love – *Short Practice of Surgery*
2. Das – *A Manual on Clinical Surgery*
3. Hamilton Bailey – *Demonstrations of Physical Signs in Clinical Surgery*
4. Sabiston – *Textbook of Surgery*

Supplementary Books

1. Oxford Handbook of Clinical Surgery
2. Church – *Essentials of Clinical Surgery*
3. SRB – *Manual of Surgery*
4. WHO – *Surgical Care at the District Hospital*

Practical Syllabus – Surgical Skills and Postoperative Care (15 hours)

1. Surgical hand washing and sterile techniques
2. Identification and handling of surgical instruments
3. Suturing, knot tying, and suture removal
4. Wound dressing, bandaging, and splinting
5. Preoperative patient preparation and consent assistance
6. OT protocols, patient positioning, and surgical assistance
7. Monitoring vital signs during postoperative care
8. Drain, catheter, and fluid management
9. Recognition and management of postoperative complications
10. Documentation, case presentation, and surgical communication

PHARMACOLOGY IN SPECIAL POPULATIONS L/T/P/C

Learning Objectives **2/-/-/2**

The student will be able to:

1. Understand pharmacological principles specific to special populations.
2. Recognize variations in pharmacokinetics and pharmacodynamics across different groups.
3. Apply safe and rational drug therapy in paediatric, geriatric, and pregnant patients.
4. Identify risks of drug toxicity, interactions, and contraindications.
5. Adjust drug doses in renal and hepatic impairment.
6. Understand pharmacotherapy in critically ill and immunocompromised patients.
7. Apply evidence-based prescribing tailored to individual patient needs.

Learning Outcomes

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

1. Prescribe drugs safely in special populations with appropriate dose adjustments.
2. Explain drug handling differences in various patient groups.
3. Identify and prevent adverse drug reactions and interactions.
4. Apply pharmacological knowledge in clinical case scenarios.
5. Interpret drug safety data for pregnancy and lactation.
6. Modify treatment plans in renal/hepatic dysfunction.
7. Demonstrate rational prescribing in complex patient conditions.

UNIT I: General Principles **(6 hours)**

- Definition and scope of special populations
- Pharmacokinetic and pharmacodynamic variations
- Factors affecting drug response (age, genetics, disease states)
- Principles of dose adjustment
- Adverse drug reactions and pharmacovigilance

UNIT II: Paediatric Pharmacology **(6 hours)**

- Drug absorption, distribution, metabolism in children
- Dose calculation in paediatrics
- Common paediatric drug therapy
- Paediatric drug safety and toxicity
- Neonatal pharmacology

UNIT III: Geriatric Pharmacology **(6 hours)**

- Age-related physiological changes
- Polypharmacy and drug interactions
- Adverse drug reactions in elderly
- Rational prescribing in geriatrics
- Drugs to be avoided in elderly (Beers criteria basics)

UNIT IV: Pharmacology in Pregnancy & Lactation **(6 hours)**

- Placental drug transfer
- Teratogenicity and drug safety categories
- Drug use in pregnancy
- Drug excretion in breast milk
- Safe prescribing in lactation

UNIT V: Pharmacology in Disease States & Special Conditions **(6 hours)**

- Drug therapy in renal impairment
- Drug therapy in hepatic impairment
- Pharmacology in critically ill patients
- Pharmacotherapy in immunocompromised patients
- Personalized medicine and pharmacogenomics

REFERENCE TEXTBOOKS

Core Textbooks

1. Goodman & Gilman – *The Pharmacological Basis of Therapeutics*
2. Katzung – *Basic & Clinical Pharmacology*
3. K.D. Tripathi – *Essentials of Medical Pharmacology*
4. Rang & Dale – *Pharmacology*

Supplementary Books

1. Neonatal and Paediatric Pharmacology – Yaffe & Aranda
2. Geriatric Pharmacotherapy – DiPiro (sections)
3. Briggs – *Drugs in Pregnancy and Lactation*
4. WHO – *Guide to Good Prescribing*

MEDICAL EDUCATION – II L/T/P/C
1/-/1/2

Learning Objectives

The student will be able to:

1. Develop advanced skills in clinical assessment and patient management.
2. Apply clinical knowledge in real patient care settings.
3. Participate actively in diagnosis, management planning, and follow-up.
4. Enhance skills in clinical reasoning and decision-making.
5. Assist and perform clinical procedures under supervision.
6. Improve communication, documentation, and presentation skills.
7. Demonstrate professionalism, ethics, and teamwork in healthcare settings.

Learning Outcomes

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

1. Independently perform focused history taking and physical examination.
2. Formulate provisional diagnosis and differential diagnosis.
3. Interpret laboratory and imaging investigations.
4. Assist in and perform basic clinical procedures under supervision.
5. Present cases systematically during clinical rounds.
6. Participate in patient management and follow-up care.
7. Demonstrate clinical decision-making and professional behavior.

TOTAL HOURS:30HOURS

1. Ward Posting (Advanced Participation)
    - Active involvement in ward rounds
    - Monitoring patient progress and follow-up
2. **Advanced History Taking & Examination**
    - Focused and system-based assessment
    - Identification of clinical signs
3. **Case Presentation & Discussion**
    - Detailed case presentation
    - Differential diagnosis and management planning
4. **Clinical Decision Making**
    - Participation in diagnosis and treatment planning
    - Applying clinical reasoning
5. **Interpretation of Investigations**
    - Lab reports (CBC, LFT, RFT, etc.)
    - Basic imaging (X-ray, ECG)
6. **Assisting & Performing Procedures**
    - IV cannulation
    - Catheterization
    - Sample collection and basic procedures
7. **OPD Posting (Active Role)**
    - Initial patient assessment
    - Assisting in outpatient management
8. **Emergency/ICU Exposure**
    - Initial assessment of critically ill patients
    - Assisting in emergency procedures
9. **Clinical Documentation**
    - Case sheets, progress notes
    - Discharge summaries and reports
10. **Professionalism & Teamwork**

- Communication with patients and healthcare team

- Ethical practice and responsibility

REFERENCE TEXTBOOKS

Core Books

1. Bates – *Guide to Physical Examination and History Taking*
2. Macleod's – *Clinical Examination*
3. Hutchison's – *Clinical Methods*

Supplementary Books

1. Oxford Handbook of Clinical Medicine
2. Talley & O'Connor – *Clinical Examination*
3. Swartz – *Textbook of Physical Diagnosis*

SEMESTER-III

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks		
							INT	EXT	TOTAL
1		Palliative Care	2	-	1	3	25	75	100
2		Core Clinical Medicine III (systems based)	4	-	2	6	25	75	100
3		Geriatrics	2	-	2	4	25	75	100
4		Preventive medicine	3	-	1	4	25	75	100
5		Ethics, Communication, and Leadership Skills	2	-	1	3	25	75	100
6		Medical Education-III	1	-	1	2	25	75	100
TOTAL			14	-	8	22	150	450	600

PALLIATIVE CARE L/T/P/C

Learning Objectives **2/-/1/3**

The student will be able to:

1. Understand the principles and philosophy of palliative care.
2. Provide holistic care addressing physical, psychological, social, and spiritual needs.
3. Assess and manage pain and other distressing symptoms.
4. Communicate effectively with patients and families, including breaking bad news.
5. Deliver end-of-life care with dignity and compassion.
6. Work within a multidisciplinary team in palliative settings.
7. Apply ethical and legal principles in palliative and terminal care.

Learning Outcomes

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

1. Perform comprehensive palliative assessment.
2. Manage pain using pharmacological and non-pharmacological methods.
3. Recognize and treat common symptoms (dyspnoea, nausea, fatigue, anxiety).
4. Communicate effectively in sensitive clinical situations.
5. Provide end-of-life care respecting patient dignity and wishes.
6. Participate in multidisciplinary palliative care teams.
7. Demonstrate ethical decision-making in terminal illness.

UNIT I: Principles of Palliative Care **(6 hours)**

- Definition, scope, and philosophy of palliative care
- Differences between palliative care and hospice care
- Models of palliative care delivery
- Role of physician associates in palliative care
- Multidisciplinary team approach

UNIT II: Pain Management **(6 hours)**

- Types and mechanisms of pain

- Pain assessment tools
- WHO analgesic ladder
- Pharmacological management (opioids, NSAIDs, adjuvants)
- Non-pharmacological pain management

UNIT III: Symptom Management **(6 hours)**

- Dyspnoea, nausea, vomiting
- Fatigue and cachexia
- Constipation and delirium
- Psychological symptoms (anxiety, depression)
- Emergency symptoms in palliative care

UNIT IV: Communication & Psychosocial Care **(6 hours)**

- Breaking bad news (SPIKES protocol)
- Counseling patients and families
- Psychological and emotional support
- Cultural and spiritual aspects of care
- Caregiver support and bereavement

UNIT V: End-of-Life Care & Ethics **(6 hours)**

- Signs of dying and terminal care
- Advance directives and living wills
- Ethical issues (euthanasia, withholding/withdrawing treatment)
- Legal aspects of palliative care
- Home-based and hospice care

4. REFERENCE TEXTBOOKS

Core Textbooks

1. Oxford Handbook of Palliative Medicine
2. Textbook of Palliative Medicine – Cherny & Fallon
3. Doyle, Hanks & MacDonald – *Oxford Textbook of Palliative Medicine*

Supplementary Books

1. WHO – *Cancer Pain Relief Guidelines*
2. Bruera & Higginson – *Palliative Care*
3. Faull – *Handbook of Palliative Medicine*
4. Indian Association of Palliative Care (IAPC) Guidelines

Practical Syllabus – Palliative Care **(15 hours)**

1. Palliative history taking and holistic patient assessment
2. Pain assessment using standard pain scales
3. Symptom management in terminal illness
4. Opioid administration and medication monitoring
5. Non-pharmacological comfort care techniques
6. Communication skills and breaking bad news
7. Psychological, spiritual, and caregiver support
8. End-of-life care and dignity-focused nursing care
9. Home-based and hospice care observation
10. Documentation, ethical decision-making, and team communication

CORE CLINICAL MEDICINE – III (SYSTEMS BASED) L/T/P/C

Learning Objectives **4/-/2/6**

The student will be able to:

1. Understand advanced clinical concepts in major organ systems.
2. Develop skills in diagnosis and management of complex diseases.
3. Interpret clinical signs, investigations, and imaging effectively.
4. Apply evidence-based medicine in patient care.
5. Recognize and manage medical emergencies within system-based practice.
6. Integrate knowledge from previous clinical medicine courses.
7. Provide comprehensive patient-centered care.

Learning Outcomes

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

1. Perform system-based clinical evaluation independently.
2. Formulate differential diagnosis and management plans.
3. Interpret advanced diagnostic investigations.
4. Manage chronic and complex diseases.
5. Identify and treat system-specific emergencies.
6. Demonstrate clinical reasoning and decision-making skills.
7. Deliver holistic and ethical patient care.

UNIT I: Cardiovascular & Hematology **(12 hours)**

- Advanced cardiac diseases (heart failure, arrhythmias, cardiomyopathies)
- Valvular heart diseases
- Hypertension and vascular disorders
- Anaemias and hemoglobinopathies
- Coagulation disorders and thrombosis

UNIT II: Respiratory & Critical Care Medicine **(12 hours)**

- Chronic respiratory diseases (COPD, asthma)
- Interstitial lung diseases
- Pulmonary infections and tuberculosis
- Respiratory failure and ventilatory support
- Basics of critical care management

UNIT III: Gastrointestinal & Hepatobiliary System **(12 hours)**

- Chronic liver diseases and cirrhosis
- Portal hypertension and complications
- Inflammatory bowel disease
- Pancreatic disorders
- Gastrointestinal bleeding and emergencies

UNIT IV: Endocrine, Metabolic & Renal System **(12 hours)**

- Diabetes mellitus and complications
- Thyroid and adrenal disorders
- Electrolyte imbalances
- Acute and chronic kidney disease
- Dialysis and renal replacement therapy

UNIT V: Neurology & Infectious Diseases **(12 hours)**

- Stroke and cerebrovascular diseases
- Seizure disorders and epilepsy
- Neurodegenerative diseases
- CNS infections
- Systemic infectious diseases (HIV, sepsis, tropical diseases)

4. REFERENCE TEXTBOOKS

Core Textbooks

1. Harrison's – *Principles of Internal Medicine*
2. Kumar & Clark – *Clinical Medicine*
3. Davidson's – *Principles and Practice of Medicine*

Supplementary Books

1. Oxford Handbook of Clinical Medicine
2. API Textbook of Medicine (India)
3. Cecil – *Textbook of Medicine*
4. Braunwald – *Heart Disease* (for cardiology reference)

Practical Syllabus – Core Clinical Medicine III **(30 hours)**

1. Advanced systemic history taking and examination
2. ECG interpretation and cardiac monitoring
3. Respiratory examination and ventilatory support basics
4. Interpretation of ABG, imaging, and laboratory investigations
5. Assessment of liver disease and gastrointestinal emergencies
6. Evaluation of diabetes and endocrine disorders
7. Renal function assessment and dialysis observation
8. Neurological examination and stroke assessment
9. Infection control and sepsis management basics
10. Case presentation, differential diagnosis, and management planning

GERIATRICS L/T/P/C
2/-/2/4

Learning Objectives

The student will be able to:

1. Understand the biology of aging and age-related physiological changes.
2. Perform comprehensive geriatric assessment (CGA).
3. Recognize and manage common geriatric syndromes.
4. Apply principles of pharmacotherapy in elderly patients.
5. Identify issues related to functional decline and rehabilitation.
6. Address psychological, social, and ethical aspects of elderly care.
7. Provide holistic and patient-centered care for older adults.

Learning Outcomes

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

1. Conduct comprehensive assessment of geriatric patients.
2. Diagnose and manage common geriatric conditions.
3. Prevent and manage falls, frailty, and disability.
4. Prescribe medications safely, avoiding polypharmacy risks.
5. Manage cognitive disorders such as dementia and delirium.
6. Provide rehabilitation and supportive care.
7. Demonstrate ethical and compassionate care for elderly patients.

UNIT I: Biology of Aging & Geriatric Assessment (6 hours)

- Aging process and physiological changes
- Comprehensive Geriatric Assessment (CGA)
- Functional status (ADL, IADL scales)
- Nutritional assessment
- Frailty and sarcopenia

UNIT II: Common Geriatric Syndromes (6 hours)

- Falls and immobility
- Incontinence (urinary and faecal)
- Pressure ulcers
- Delirium
- Frailty and functional decline

UNIT III: Chronic Diseases in Elderly (6 hours)

- Cardiovascular diseases (HTN, heart failure)
- Diabetes in elderly
- Osteoarthritis and osteoporosis
- Chronic respiratory diseases
- Chronic kidney disease

UNIT IV: Neuropsychiatric & Cognitive Disorders (6 hours)

- Dementia (Alzheimer's disease, vascular dementia)
- Depression in elderly
- Parkinsonism
- Sleep disorders
- Behavioural and psychological symptoms

UNIT V: Pharmacology, Rehabilitation & End-of-Life Care (6 hours)

- Pharmacokinetics and pharmacodynamics in elderly
- Polypharmacy and drug interactions
- Principles of rational prescribing
- Rehabilitation and physiotherapy

- Palliative care and end-of-life issues

4. REFERENCE TEXTBOOKS

Core Textbooks

1. Brocklehurst's – *Textbook of Geriatric Medicine and Gerontology*
2. Oxford Handbook of Geriatric Medicine
3. Hazzard's – *Geriatric Medicine and Gerontology*

Supplementary Books

1. API Textbook of Medicine (Geriatrics section)
2. Davidson's – *Principles and Practice of Medicine*
3. Katzung – *Basic & Clinical Pharmacology* (for geriatric pharmacology)
4. WHO – *Integrated Care for Older People (ICOPE)* Guidelines

Practical Syllabus – Geriatrics **(30 hours)**

1. Comprehensive geriatric assessment (CGA)
2. Functional assessment using ADL and IADL scales
3. Nutritional and frailty assessment
4. Fall risk assessment and mobility evaluation
5. Cognitive assessment for dementia and delirium
6. Depression and mental health screening in elderly
7. Medication review and polypharmacy assessment
8. Pressure sore prevention and elderly skin care
9. Rehabilitation, physiotherapy, and supportive care
10. Communication, counseling, and end-of-life care planning

PREVENTIVE MEDICINE L/T/P/C

Learning Objectives **3/-/1/4**

The student will be able to:

1. Understand the principles and concepts of preventive medicine and public health.
2. Identify determinants of health and disease in populations.
3. Apply methods of disease prevention and health promotion.
4. Understand epidemiological tools and study designs.
5. Plan and implement screening and vaccination programs.
6. Recognize national health programs and policies.
7. Promote community-based healthcare and preventive strategies.

Learning Outcomes

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

1. Apply levels of prevention (primordial, primary, secondary, tertiary).
2. Conduct basic epidemiological analysis and interpret data.
3. Plan and implement health education and promotion activities.
4. Identify and manage risk factors for common diseases.
5. Participate in immunization and screening programs.
6. Demonstrate knowledge of national health programs.
7. Provide community-oriented preventive care.

UNIT I: Principles of Preventive Medicine **(9 hours)**

- Definition and scope of preventive medicine
- Natural history of disease
- Levels of prevention
- Determinants of health (social, environmental, biological)
- Concepts of health promotion

UNIT II: Epidemiology **(9 hours)**

- Basic epidemiological concepts
- Measures of disease frequency (incidence, prevalence)
- Study designs (cohort, case-control, cross-sectional)
- Screening tests and validity (sensitivity, specificity)
- Outbreak investigation

UNIT III: Communicable Diseases & Immunization **(9 hours)**

- Epidemiology and prevention of common communicable diseases
- National immunization schedule
- Vaccine types and cold chain
- Surveillance and control of infectious diseases
- Emerging and re-emerging infections

UNIT IV: Non-Communicable Diseases (NCDs) **(9 hours)**

- Risk factors (lifestyle, environment, genetics)
- Prevention of diabetes, hypertension, cancer
- Screening programs for NCDs
- Mental health and substance abuse
- Lifestyle modification and health promotion

UNIT V: Health Systems & National Programs **(9 hours)**

- Structure of healthcare delivery system
- National health programs (e.g., TB, HIV, maternal and child health)
- Environmental health (water, sanitation, pollution)
- Occupational health
- Health education and communication strategies

4. REFERENCE TEXTBOOKS

Core Textbooks

1. Park – *Textbook of Preventive and Social Medicine*
2. Oxford Handbook of Public Health Practice
3. Maxcy-Rosenau-Last – *Public Health & Preventive Medicine*

Supplementary Books

1. WHO – *Public Health Guidelines*
2. API Textbook of Medicine (Preventive aspects)
3. CDC – *Epidemiology Manuals*
4. ICMR Guidelines (India-specific)

Practical Syllabus – Preventive Medicine **(15 hours)**

1. Community diagnosis and health survey
2. Measurement of morbidity and mortality indicators
3. Epidemiological study design and data interpretation
4. Outbreak investigation and reporting
5. Screening tests and interpretation of sensitivity/specificity
6. Immunization practices and cold chain maintenance
7. Health education and communication sessions
8. Risk factor assessment for NCDs
9. National health program implementation and evaluation
10. Environmental and occupational health assessment

ETHICS, COMMUNICATION, AND LEADERSHIP SKILLS L/T/P/C

2/-/1/3

Learning Objectives

The student will be able to:

1. Understand the principles of medical ethics in clinical practice.
2. Develop effective communication skills with patients, families, and healthcare teams.
3. Apply ethical decision-making in complex clinical situations.
4. Demonstrate professionalism and empathy in patient care.
5. Develop leadership and teamwork skills in healthcare settings.
6. Manage conflicts and maintain interpersonal relationships.
7. Understand legal responsibilities and medico-legal aspects of practice.

Learning Outcomes

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

1. Apply ethical principles (autonomy, beneficence, non-maleficence, justice) in practice.
2. Communicate effectively in clinical and sensitive situations.
3. Demonstrate professional behavior and empathy.
4. Handle ethical dilemmas and conflicts appropriately.
5. Lead and function effectively in a multidisciplinary healthcare team.
6. Maintain proper medical documentation and confidentiality.
7. Demonstrate leadership, accountability, and decision-making skills.

UNIT I: Principles of Medical Ethics **(6 hours)**

- Introduction to medical ethics
- Ethical principles (autonomy, beneficence, non-maleficence, justice)
- Patient rights and responsibilities
- Confidentiality and privacy
- Professionalism in healthcare

UNIT II: Communication Skills **(6 hours)**

- Basics of effective communication
- Doctor–patient communication
- Verbal and non-verbal communication
- Breaking bad news (SPIKES protocol)
- Communication in special situations (ICU, emergencies)

UNIT III: Ethical Decision Making & Medico-Legal Aspects **(6 hours)**

- Ethical dilemmas in clinical practice
- Informed consent and refusal
- End-of-life decisions
- Medical negligence and legal responsibilities
- Documentation and medico-legal records

UNIT IV: Leadership & Teamwork **(6 hours)**

- Principles of leadership in healthcare
- Team dynamics and collaboration
- Conflict management and resolution
- Time management and decision-making
- Quality improvement and patient safety

UNIT V: Professional Development & Behavioural Skills **(6 hours)**

- Stress management and resilience
- Emotional intelligence
- Cultural competence and diversity
- Patient-centered care
- Lifelong learning and reflective practice

REFERENCE TEXTBOOKS

Core Textbooks

1. Beauchamp & Childress – *Principles of Biomedical Ethics*
2. Silverman, Kurtz & Draper – *Skills for Communicating with Patients*
3. Oxford Handbook of Medical Ethics and Law

Supplementary Books

1. WHO – *Communication for Health Guidelines*
2. GMC – *Good Medical Practice*
3. Park – *Preventive and Social Medicine* (ethics section)
4. Carnegie – *How to Win Friends and Influence People* (for interpersonal skills)

Practical Syllabus – Ethics, Communication, and Leadership Skills (15 hours)

1. Application of core ethical principles in clinical cases
2. Informed consent and patient rights documentation
3. Doctor–patient communication skills training
4. Breaking bad news using SPIKES protocol
5. Communication in emergency and critical care settings
6. Medical documentation and confidentiality practice
7. Medico-legal case scenario discussion and reporting
8. Conflict management and team communication exercises
9. Leadership roles in multidisciplinary healthcare teams
10. Professional behavior, empathy, and reflective practice sessions

MEDICAL EDUCATION – III L/T/P/C

Learning Objectives **1/-/1/2**

The student will be able to:

1. Achieve near-independent clinical competence in patient care.
2. Integrate knowledge from all clinical disciplines into holistic management.
3. Strengthen clinical reasoning, diagnostic accuracy, and decision-making.
4. Perform and assist in advanced clinical procedures under supervision.
5. Manage acute and chronic conditions effectively.
6. Demonstrate leadership in clinical settings and teamwork.
7. Uphold ethical practice, professionalism, and patient safety.

Learning Outcomes

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

1. Independently perform comprehensive patient evaluation.
2. Formulate definitive diagnosis and evidence-based management plans.
3. Interpret advanced investigations and clinical data.
4. Perform basic procedures independently and assist in advanced ones.
5. Manage emergency and critically ill patients (initial stabilization).
6. Present and defend cases during clinical discussions and rounds.
7. Demonstrate professionalism, leadership, and effective communication.

Syllabus (TOTAL HOURS:30 HOURS)

1. **Advanced Ward Posting (Independent Role)**
   - Leading parts of ward rounds
   - Monitoring and modifying patient management plans
2. **Comprehensive Clinical Assessment**
   - Complete history taking and system-based examination
   - Identification of complex clinical findings
3. **Case Presentation & Clinical Reasoning**
   - Detailed case presentations with justification
   - Formulating differential and final diagnosis
4. **Clinical Decision-Making & Management Planning**
   - Evidence-based treatment planning
   - Drug prescription under supervision
5. **Advanced Interpretation of Investigations**
   - ECG, imaging (X-ray, CT basics)
   - Lab data interpretation and clinical correlation
6. **Procedural Skills (Supervised Practice)**
   - IV access, catheterization, ABG sampling
   - Assisting in lumbar puncture, central line insertion, etc.
7. **Emergency & Critical Care Exposure**
   - Initial stabilization (BLS/ACLS principles)
   - Triage and emergency response
8. **Outpatient Department (OPD) Management**
   - Independent initial evaluation
   - Follow-up and chronic disease management
9. **Clinical Documentation & Audit**
   - Case sheets, discharge summaries
   - Participation in clinical audits and case reviews
10. **Leadership, Teaching & Teamwork**

- Supervising juniors (where applicable)
- Interprofessional collaboration
- Teaching basic clinical skills to peers

REFERENCE TEXTBOOKS

Core Books

1. Bates – *Guide to Physical Examination and History Taking*
2. Macleod's – *Clinical Examination*
3. Hutchison's – *Clinical Methods*

Supplementary Books

1. Oxford Handbook of Clinical Medicine
2. Davidson's – *Principles and Practice of Medicine*
3. Kumar & Clark – *Clinical Medicine*
4. Emergency & Critical Care Manuals (for practical exposure)

SEMESTER-IV

S.NO	SUBJECT CODE	SUBJECT	L	T	P	C	Max. Marks		
							INT	EXT	TOTAL
1		**Core Clinical Medicine IV**	4	-	3	7	25	75	100
2		**Consents and Medico legal issues**	3	-	2	5	25	75	100
3		**Rehabilitative Medicine**	2	-	1	3	25	75	100
4		**Medical Education-IV**	3	-	3	6	25	75	100
TOTAL			**12**	**-**	**9**	**21**	**100**	**300**	**400**

CORE CLINICAL MEDICINE – IV L/T/P/C

4/-/3/7

Learning Objectives

The student will be able to:

1. Integrate advanced clinical knowledge across multiple systems.
2. Diagnose and manage complex, multisystem disorders.
3. Apply evidence-based and patient-centered approaches in care.
4. Interpret advanced diagnostic tests and imaging.
5. Recognize and manage medical emergencies and critical conditions.
6. Develop skills in long-term and multidisciplinary patient care.
7. Enhance clinical decision-making and problem-solving abilities.

Learning Outcomes

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

1. Perform comprehensive system-based and integrated assessments.
2. Formulate definitive diagnoses and management strategies.
3. Interpret complex clinical data and investigations.
4. Manage multisystem and chronic diseases effectively.
5. Identify and treat life-threatening emergencies.
6. Demonstrate independent clinical reasoning and judgment.
7. Provide holistic, ethical, and evidence-based patient care.

UNIT I: Multisystem & Complex Disorders **(12 hours)**

- Multiorgan dysfunction syndrome (MODS)
- Sepsis and septic shock
- Autoimmune and systemic diseases (SLE, vasculitis)
- Metabolic syndrome
- Geriatric multisystem disorders

UNIT II: Emergency & Critical Care Medicine **(12 hours)**

- Advanced life support (ACLS principles)
- Shock (types and management)
- Acute poisoning and toxicology
- Trauma basics and stabilization
- ICU monitoring and organ support

UNIT III: Infectious & Tropical Diseases **(12 hours)**

- Advanced management of infectious diseases
- HIV/AIDS and opportunistic infections
- Tuberculosis (drug-resistant TB)
- Tropical diseases (malaria, dengue, leptospirosis)
- Infection control practices

UNIT IV: Oncology & Palliative Integration **(12 hours)**

- Basics of oncology and cancer biology
- Common malignancies and their management
- Chemotherapy and supportive care
- Oncological emergencies
- Integration with palliative care

UNIT V: Evidence-Based Medicine & Clinical Integration **(12 hours)**

- Principles of evidence-based medicine (EBM)
- Clinical guidelines and protocols
- Interpretation of clinical research
- Clinical audit and quality improvement
- Ethical decision-making in complex cases

REFERENCE TEXTBOOKS

Core Textbooks

1. Harrison's – *Principles of Internal Medicine*
2. Kumar & Clark – *Clinical Medicine*
3. Davidson's – *Principles and Practice of Medicine*

Supplementary Books

1. Oxford Handbook of Clinical Medicine
2. API Textbook of Medicine (India)
3. Oxford Handbook of Critical Care
4. DeVita – *Cancer: Principles & Practice of Oncology*

Practical Syllabus– Core Clinical Medicine IV **(45 hours)**

1. Integrated multisystem patient assessment
2. Diagnosis and management of MODS and sepsis
3. Advanced life support (ACLS) and emergency resuscitation
4. Shock evaluation and hemodynamic management
5. Toxicology and acute poisoning management
6. Infectious disease workup and infection control practices
7. HIV, TB, and tropical disease case management
8. Oncology case evaluation and chemotherapy support care
9. Interpretation of advanced investigations and imaging
10. Evidence-based case presentation and clinical audit practice

CONSENTS AND MEDICO-LEGAL ISSUES L/T/P/C

Learning Objectives **3/-/2/5**

The student will be able to:

1. Understand the legal and ethical principles governing medical practice.
2. Learn the process and importance of valid informed consent.
3. Recognize medico-legal responsibilities of healthcare professionals.
4. Identify and manage legal risks and negligence issues.
5. Understand laws related to patient rights, confidentiality, and documentation.
6. Apply medico-legal knowledge in clinical practice and emergencies.
7. Maintain proper legal records and documentation.

Learning Outcomes

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

1. Obtain valid informed consent in various clinical situations.
2. Apply legal and ethical principles in patient care.
3. Identify and prevent medical negligence and malpractice.
4. Handle medico-legal cases (MLC) appropriately.
5. Maintain accurate and legally sound medical documentation.
6. Demonstrate knowledge of relevant healthcare laws and regulations.
7. Respond appropriately to legal challenges in medical practice.

UNIT I: Principles of Medical Law & Ethics **(9 hours)**

- Introduction to medico-legal system
- Legal aspects of medical practice
- Duties and responsibilities of healthcare professionals
- Patient rights and responsibilities
- Ethical principles in healthcare

UNIT II: Informed Consent **(9 hours)**

- Definition and types of consent (implied, expressed, informed)
- Elements of valid consent
- Consent in special situations (minors, unconscious patients, emergencies)
- Refusal of treatment and withdrawal of consent
- Documentation of consent

UNIT III: Medical Negligence & Malpractice **(9 hours)**

- Definition and types of negligence
- Standard of care and breach of duty
- Legal consequences of negligence
- Consumer protection laws in healthcare
- Risk management and prevention

UNIT IV: Medico-Legal Cases & Documentation **(9 hours)**

- Identification and handling of MLCs
- Documentation and record keeping
- Medical certificates and reports
- Role of physician associate in legal cases
- Court procedures and medico-legal evidence

UNIT V: Special Legal Issues in Healthcare **(9 hours)**

- Confidentiality and data protection
- Organ transplantation laws
- End-of-life decisions and euthanasia
- Sexual offences and reporting obligations
- Biomedical waste management and legal regulations

REFERENCE TEXTBOOKS

Core Textbooks

1. Parikh – *Textbook of Medical Jurisprudence and Toxicology*
2. Reddy – *Essentials of Forensic Medicine and Toxicology*
3. Oxford Handbook of Medical Ethics and Law

Supplementary Books

1. Modi – *Medical Jurisprudence and Toxicology*
2. ICMR – *Ethical Guidelines for Biomedical Research*
3. WHO – *Guidelines on Patient Safety and Ethics*
4. Indian Medical Council (NMC) – *Professional Conduct Regulations*

Practical Syllabus– Consents and Medico-Legal Issues **(30 hours)**

1. Obtaining informed consent in clinical scenarios
2. Consent documentation and legal validity checks
3. Consent in minors, unconscious, and emergency cases
4. Refusal of treatment and withdrawal of consent handling
5. Identification and management of medico-legal cases (MLC)
6. Preparation of medical certificates and reports
7. Medical record writing and documentation practice
8. Case-based learning on medical negligence and malpractice
9. Confidentiality, patient rights, and data protection application
10. Court procedures, evidence handling, and medico-legal communication

REHABILITATIVE MEDICINE L/T/P/C

Learning Objectives **2/-/1/3**

The student will be able to:

1. Understand the principles and scope of rehabilitation medicine.
2. Assess functional impairment and disability in patients.
3. Plan and implement rehabilitation strategies for various conditions.
4. Work effectively with a multidisciplinary rehabilitation team.
5. Apply physiotherapy, occupational therapy, and assistive techniques.
6. Promote functional independence and quality of life.
7. Understand community-based rehabilitation and long-term care.

Learning Outcomes

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

1. Perform functional assessment of patients with disabilities.
2. Develop individualized rehabilitation plans.
3. Assist in rehabilitation therapies for neurological, orthopedic, and chronic conditions.
4. Prescribe and guide use of assistive devices and mobility aids.
5. Manage post-operative and post-illness rehabilitation.
6. Participate in multidisciplinary rehabilitation care.
7. Promote patient independence and reintegration into society.

UNIT I: Principles of Rehabilitation Medicine **(6 hours)**

- Definition, scope, and goals of rehabilitation
- Disability and impairment concepts (ICF classification)
- Functional assessment tools
- Multidisciplinary rehabilitation team
- Community-based rehabilitation

UNIT II: Physical Rehabilitation **(6 hours)**

- Physiotherapy principles and techniques
- Exercise therapy and mobility training
- Pain management in rehabilitation
- Posture and gait training
- Use of assistive devices (crutches, walkers, wheelchairs)

UNIT III: Neurological Rehabilitation **(6 hours)**

- Stroke rehabilitation
- Spinal cord injury rehabilitation
- Traumatic brain injury
- Parkinsonism and neuromuscular disorders
- Cognitive and behavioural rehabilitation

UNIT IV: Orthopedic & Cardiopulmonary Rehabilitation **(6 hours)**

- Fracture and post-operative rehabilitation
- Joint replacement rehabilitation
- Arthritis and musculoskeletal disorders
- Cardiac rehabilitation
- Pulmonary rehabilitation (COPD, post-COVID care)

UNIT V: Psychosocial & Vocational Rehabilitation **(6 hours)**

- Psychological aspects of disability
- Counseling and mental health support
- Vocational rehabilitation and return to work
- Geriatric and paediatric rehabilitation
- Palliative and long-term care rehabilitation

4. REFERENCE TEXTBOOKS

Core Textbooks

1. Braddom – *Physical Medicine and Rehabilitation*
2. DeLisa – *Physical Medicine & Rehabilitation: Principles and Practice*
3. Goodman – *Pathology: Implications for the Physical Therapist*

Supplementary Books

1. O'Sullivan – *Physical Rehabilitation*
2. Umphred – *Neurological Rehabilitation*
3. Kisner & Colby – *Therapeutic Exercise*
4. WHO – *Community-Based Rehabilitation Guidelines*

Practical Syllabus– Rehabilitative Medicine **(15 hours)**

1. Functional assessment and disability evaluation
2. ICF-based patient assessment and documentation
3. Physiotherapy techniques and exercise therapy basics
4. Gait training and mobility aid usage (crutches, walkers, wheelchairs)
5. Post-stroke rehabilitation and neurorehabilitation exercises
6. Orthopedic and post-operative rehabilitation care
7. Cardiac and pulmonary rehabilitation techniques
8. Pain management in rehabilitation settings
9. Assistive devices prescription and training
10. Multidisciplinary and community-based rehabilitation planning

MEDICAL EDUCATION – IV

L/T/P/C

3/-/3/6

Learning Objectives

The student will be able to:

1. Achieve independent clinical competence in patient care.
2. Integrate knowledge, skills, and attitudes for holistic patient management.
3. Perform clinical decision-making with minimal supervision.
4. Manage emergency, acute, and chronic conditions effectively.
5. Demonstrate leadership, teamwork, and coordination in healthcare settings.
6. Ensure patient safety, ethical practice, and quality care delivery.
7. Prepare for transition into professional clinical practice.

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

1. Independently conduct comprehensive patient evaluation and management.
2. Formulate and implement diagnosis and treatment plans.
3. Perform essential clinical procedures confidently.
4. Manage emergencies and stabilize critically ill patients.
5. Interpret clinical data, investigations, and imaging accurately.
6. Communicate effectively with patients, families, and healthcare teams.
7. Demonstrate professionalism, accountability, and leadership skills.

SYLLABUS (**TOTAL HOURS:90 HOURS**)

1. **Internship-Level Ward Responsibilities**
    - Independent patient care under supervision
    - Daily rounds, monitoring, and updating treatment plans
2. **Comprehensive Case Management**
    - Full evaluation, diagnosis, treatment, and follow-up
    - Managing multiple patients simultaneously
3. **Advanced Case Presentation**
    - Detailed and structured case discussions
    - Clinical reasoning and justification of management
4. **Independent Clinical Decision-Making**
    - Evidence-based treatment planning
    - Rational drug prescription
5. **Procedural Competency**
    - IV cannulation, catheterization, suturing
    - ABG sampling, basic airway management
    - Assisting advanced procedures
6. **Emergency & Critical Care Management**
    - Initial stabilization (BLS/ACLS principles)
    - Triage and rapid decision-making
7. **OPD & Follow-Up Care**
    - Independent patient evaluation
    - Chronic disease management and counseling
8. **Interdisciplinary Collaboration**
    - Working with doctors, nurses, therapists
    - Coordinating patient care
9. **Clinical Documentation & Legal Aspects**
    - Case sheets, discharge summaries
    - Consent, medico-legal awareness
10. **Leadership, Teaching & Professional Development**

- Supervising junior students
- Teaching basic skills
- Time management and ethical practice

REFERENCE TEXTBOOKS

Core Books

1. Bates – *Guide to Physical Examination and History Taking*
2. Macleod's – *Clinical Examination*
3. Hutchison's – *Clinical Methods*

Supplementary Books

1. Oxford Handbook of Clinical Medicine
2. Davidson's – *Principles and Practice of Medicine*
3. Kumar & Clark – *Clinical Medicine*
4. Emergency & Critical Care Manuals