

# East Point College of Pharmacy

East Point Campus, Jnana Prabha, Virgo Nagar Post  
Bengaluru – 560049, Karnataka

**Approved**  
*by*  
**Pharmacy Council of India, New Delhi**



**Affiliated**  
*to*  
**Rajiv Gandhi University of Health Sciences**  
**Karnataka**  
**Bengaluru – 560 041**  
**India**

## **LAB MANUAL**

**PHARMACOTHERAPEUTICS III**  
**PHARM D**  
**4<sup>th</sup> Year**

**PROGRAM SPECIFIC OUTCOMES**

**DOCTOR OF PHARMACY**

|             |  |
|-------------|--|
| <b>PSO1</b> | Acquire a thorough foundational knowledge in pharmaceutical sciences, including pharmacology, pharmaceutics, pharmaceutical chemistry, pharmacognosy and pharmaceutical analysis to excel in further academic pursuits |
| <b>PSO2</b> | Acquire and apply the pharmacotherapeutic concepts for better patient care enhancing employability across various sectors including clinical research organizations, academic and hospitals                            |
| <b>PSO3</b> | Equip with entrepreneurial skills and knowledge of pharmacoepidemiological studies and regulatory aspects to initiate and run successful ventures in the healthcare sector   |

|                |  |
|----------------|--|
| <b>Course:</b> | <b>Code: 4.1P<br/>Pharmacotherapeutics III</b>                                       |
| <b>CO1</b>     | Able to understand the pharmacotherapy of all diseases                               |
| <b>CO2</b>     | Capable of examining and deciphering case studies encompassing a range of illnesses. |
| <b>CO3</b>     | Students can able to develop the patient case-based assessment Skills                |
| <b>CO4</b>     | Continue to develop communication skills   |

## **SYLLABUS**

Practical: 3 Hrs./Week

### **Practicals:**

Hospital postings for a period of at least 50 hours is required to understand the principles and practice involved in ward round participation and clinical discussion on selection of drug therapy. Students are required to maintain a record of 15 cases observed in the ward and the same should be submitted at the end of the course for evaluation. Each student should present at least two medical cases they have observed and followed in the wards.

### **Etiopathogenesis and pharmacotherapy of diseases associated with following systems/ diseases:**

#### **Title of the topic**

**1 Gastrointestinal system:** Peptic ulcer disease, Gastro Esophageal Reflux Disease, Inflammatory bowel disease, Liver disorders - Alcoholic liver disease, Viral hepatitis including jaundice, and Drug induced liver disorders.

**2 Haematological system:** Anaemias, Venous thromboembolism, Drug induced blood disorders.

**3 Nervous system:** Epilepsy, Parkinsonism, Stroke, Alzheimer's disease,

**4 Psychiatry disorders:** Schizophrenia, Affective disorders, Anxiety disorders, Sleep disorders, Obsessive Compulsive disorders

5 Pain management including Pain pathways, neuralgias, headaches.

6 Evidence Based Medicine.

### **Assignments:**

Students are required to submit written assignments on the topics given to them. Topics allotted should cover recent developments in drug therapy of various diseases. A minimum of THREE assignments [1500 – 2000 words] should be submitted for evaluation.

### **Format of the assignment:**

1. Minimum & Maximum number of pages.
2. Reference(s) shall be included at the end.
3. The assignment can be a combined presentation at the end of the academic year.
4. It shall be a computer draft copy.
5. Name and signature of the student.
6. Time allocated for presentation may be 8+2 Min.

**Scheme of Practical Examination:**

| Scheme                  | Sessional | Annual |
|-------------------------|-----------|--------|
| <b>Synopsis</b>         | 05        | 15     |
| <b>Major Experiment</b> | 10        | 25     |
| <b>Minor Experiment</b> | 03        | 15     |
| <b>Viva</b>             | 02        | 15     |
| <b>Max Marks</b>        | 20        | 70     |
| <b>Duration</b>         | 03hrs     | 04 hrs |

**Note:** Total sessional marks is 30 (20 for practical sessional plus 10 marks for regularity, promptness, viva voce, and record maintenance).

**PRACTICAL DESCRIPTION:**

Pharm D fourth-year students are assigned to East Point Hospital, where they rotate through various departments such as General Medicine, General Surgery, Paediatrics, Gynaecology, and Psychiatric unit. During their posting, students are required to collect 15 patient cases, focusing on disorders of Gastrointestinal system, Haematological system, Nervous system, Psychiatry system. Students will also be analyzing the patient case profile to find any medication error.

Each case must be documented in the patient profile form provided by the Department of Pharmacy Practice at East Point College of Pharmacy. After collecting each case, students will discuss and present their findings and document them in the record. These documented cases will then be submitted to the respective subject in charge for review.



| LABORATORY INVESTIGATIONS  | NORMAL RANGE                     | DATE |  |  |  |
|--|----------------------------------|------|--|--|--|
| <b>Blood Analysis</b>  |                                  |      |  |  |  |
| Hemoglobin   | 12-18mg/dl                       |      |  |  |  |
| WBC count  | 5000-11000cells/cumm             |      |  |  |  |
| Neutrophils  | 40-75%                           |      |  |  |  |
| Lymphocytes  | 20-50%                           |      |  |  |  |
| Monocytes  | 2-11%                            |      |  |  |  |
| Eosinophils  | 1-6%                             |      |  |  |  |
| Basophils  | 0-1%                             |      |  |  |  |
| RBC  | X10 <sup>6</sup> /mcL            |      |  |  |  |
| Packed cell volume (PCV)   | 35-45%                           |      |  |  |  |
| MCV  | 77-95fL                          |      |  |  |  |
| MCH  | 25-33pg                          |      |  |  |  |
| MCHC   | 31-37g/dL                        |      |  |  |  |
| RDW  | 12.8-14.2%                       |      |  |  |  |
| Platelets  | 1.5-4.5lacs/cumm                 |      |  |  |  |
| ESR  | 0-20mm/hr                        |      |  |  |  |
| <b>CRP</b>   | <5mg/L                           |      |  |  |  |
| <b>Urea &amp; Creatinine Analysis</b>  |                                  |      |  |  |  |
| Serum Urea   | 20-50mg/dl                       |      |  |  |  |
| Serum Uric acid  | M: 3.5-7.2mg/dlF: 2.6-6.9mg/dl   |      |  |  |  |
| Serum Creatinine   | M: 0.9-1.3mg/dlF: 0.6-1.1mg/dl   |      |  |  |  |
| <b>Electrolytes</b>  |                                  |      |  |  |  |
| Sodium   | 136-145meq/L                     |      |  |  |  |
| Potassium  | 3.5-4.5meq/L                     |      |  |  |  |
| Chloride   | 98-107meq/L                      |      |  |  |  |
| <b>Endocrine Test</b>  |                                  |      |  |  |  |
| GRBS   | 70-140mg/dl                      |      |  |  |  |
| <b>Liver Function Analysis</b>   |                                  |      |  |  |  |
| Total Bilirubin  | 0.3-1.2mg/dl                     |      |  |  |  |
| Direct Bilirubin   | 0-0.2mg/dl                       |      |  |  |  |
| Indirect Bilirubin   | 0.3-1.0mg/dl                     |      |  |  |  |
| Total Protein  | 6.4-8.3g/dl                      |      |  |  |  |
| Albumin  | 3.5-5.2g/dl                      |      |  |  |  |
| Globulin   | 2.3-3.5g/dl                      |      |  |  |  |
| SGOT/AST   | M: up to 35IU/LF: up to 31IU/L   |      |  |  |  |
| SGPT/ALT   | M: up to 45IU/L, F: up to 34IU/L |      |  |  |  |
| ALP  | M: 53-128IU/LF: 42-98IU/L        |      |  |  |  |
| A:G Ratio  | 1.0-1.8g/dl                      |      |  |  |  |
| <b>Impression of Special Diagnostic Tests (ECG, X-RAY, MRI, USG, ENDOSCOPY):</b> |                                  |      |  |  |  |



| <b>PATIENT DISCHARGE MEDICATIONS</b> |                   |                     |             |             |                 |
|--------------------------------------|-------------------|---------------------|-------------|-------------|-----------------|
| <b>Sl. no</b>                        | <b>BRAND NAME</b> | <b>GENERIC NAME</b> | <b>DOSE</b> | <b>FREQ</b> | <b>DURATION</b> |
|                                      |                   |                     |             |             |                 |
|                                      |                   |                     |             |             |                 |
|                                      |                   |                     |             |             |                 |
|                                      |                   |                     |             |             |                 |
|                                      |                   |                     |             |             |                 |
|                                      |                   |                     |             |             |                 |
|                                      |                   |                     |             |             |                 |

| <b>CLINICAL PHARMACIST ASSESSMENT</b> |
|---------------------------------------|
|                                       |

| <b>PATIENT COUNSELING</b> |
|---------------------------|
|                           |

**NAME & SIGNATURE OF THE STUDENT:**

**SUBMISSION DATE:**

**SIGNATURE OF THE FACULTY:**





**EAST POINT COLLEGE OF PHARMACY**

**Medication Error Reporting Form**

Please tick the appropriate box. All fields must be filled except details of reporter which is optional.

**Details of Reporter :**

|                             |                           |     |          |        |
|-----------------------------|---------------------------|-----|----------|--------|
| <b>Date of event:</b> _____ | <b>Location of event:</b> |     |          |        |
| <b>Time of event:</b> _____ | Ward                      | OPD | Pharmacy | Others |

|   |   |
|---|---|
| <b>Type of error:</b>   | <b>Patient details</b>  |
| <input type="checkbox"/> Prescribing <input type="checkbox"/> Dispensing<br><input type="checkbox"/> Administration<br><input type="checkbox"/> Transcription | Age: _____                      Gender: _____<br><br>Diagnosis: _____ |

|                                  |  |
|----------------------------------|--|
| <b>Description of the event:</b> | <b>Did the error reach the patient?</b>  |
|                                  | <input type="checkbox"/> <input type="checkbox"/><br>Yes                      No |

**Details of medicines involved in the event: [dosage form, Generic Name , Strength Frequency]**

**Intervention done:**



- DIFFERENTIAL DIAGNOSIS

## PROGRESS REPORT

- About patient's daily progress report

## DRUGS ON DISCHARGE

| Sl. no | Brand name | Generic name | dose | frequency | ROA | Duration |
|--------|------------|--------------|------|-----------|-----|----------|
|        |            |              |      |           |     |          |
|        |            |              |      |           |     |          |
|        |            |              |      |           |     |          |

## ASSESSMENT

| Sno | Test Ordered  | Objective /Purpose to be correlated with possible sign/symptom findings                                |
|-----|---------------|--|
| 1   | CBC           | This was performed to evaluate RBS indices since the patient complains or shows signs of Anemia etc... |
| 2   | Lipid profile | xxxxx  |
| 3   | Etc & so on   | xxxxxx   |

## ASSESSMENT

DIAGNOSIS:

| EVIDENCE | DIAGNOSIS |
|----------|-----------|
|          |           |
|          |           |
|          |           |

## ASSESSMENT

- Summarized Problems and issues identified during therapy
- Drug interactions/ADR/medication error etc....



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## RECOMMENDATIONS

- Recommendations to the health care providers (any changes/suggestions)
- Recommendations to the patient (patient counseling)

## MONITORING PARAMETERS

Monitoring parameters for disease  
Monitoring parameters for drugs



## Vision and Mission of the Institution

### Vision

The East Point College of Pharmacy aspires to be a globally acclaimed institution, **recognized for excellence in** pharmaceutical education, research and nurturing students for **holistic development**.

### Mission

- M1** Create pharmacy graduates through **quality education**
- M2** Promote innovation, **creativity**, and excellence **in teaching**, learning, and **research**
- M3** **Inspire** integrity, teamwork, critical thinking, **personal** development, and ethics in **students** and lay **the** foundation for lifelong learning
- M4** Serve the **healthcare, technological, scientific**, and **economic** needs of then **society**.