

**BHARATHIDASAN UNIVERSITY, TIRUCHIRAPPALLI – 620 024**

**Certificate Programme in Medicinal Chemistry (2005-2006)**

**Paper – I**

**PHARMACEUTICAL CHEMISTRY**

**Unit I**

Classification of drugs based on Sources, Mode of Administration, Site of action, absorption of drugs, Drugs distribution and excretion.

**Unit II**

Drug Metabolism : Chemical Pathways of drug Metabolism – Oxidation, Reduction, Hydrolysis and conjugation reaction.

**Unit III**

Adverse responses and side effects of drugs, Drug allergy, Drug intolerance, Drug addiction, Drug abuses and their biological effects.

**Unit IV**

Chemotherapy : Biochemical mode of action of antibiotics – Penicillin, Tetracycline, Chloromphenicol.

**Unit V**

Antiseptics and disinfectants – Phenols and related Compounds, formaldehyde and ethanol.

**Text Books :**

1. Pharmaceutical Chemistry – Katzung.
2. Pharmacy – Satoskhar (Vol. I & Vol II)

**Reference Books:**

1. Clinical Chemistry – Tietz.
2. Principles of Medicinal Chemistry – W.O.Foye.

## **Paper – II - Clinical Biochemistry**

### **Unit I**

Inborn errors of Metabolism : Phenylketonuria, Tyrosinosis, Alkaptonuria, Maple Syrup Urine disease, Albinism, Parkinson's disease, Lesch Nahan Syndrome, Gout, Glycogen Storage disease, Tay-Sach's disease, Gaucher's disease.

### **Unit II**

Collection, Preservation of biological specimens such as blood, Urine.

### **Unit III**

Biochemical assessment of Liver function, Cirrhosis, Hepatitis, Jaundice, Hepatic Coma.

### **Unit IV**

Disorders in Blood: Anaemia, Types of Anaemia, Methaemoglobinemia, Agranulocytosis, Thrombocytopenia, Haematuria, Hypertension, Hypercholesterolemia.

### **Unit V**

Qualitative analysis of Urine, Urinary Sediments, Renal functions tests, acute and Chronic renal failure, Glomerular Nephritis and Urinary Calculi.

## **Paper III**

### **Practical**

1. Haematology Practice – TC, DC, ESR, Hb, Blood Grouping
2. Estimation of Blood Glucose – O.T. Method.
3. Estimation of Urea – DAM Method
4. Estimation of Protein – Lowry's Method
5. Estimation of Cholesterol – Zak's Method.
6. Estimation of Creatinine
7. Estimation of Uric acid – Caraway's Method.

### **Text Book**

1. Text book of Clinical Chemistry – Tietz.
2. Practical Biochemistry – H.Varley
3. Manuals in Biochemistry – J.Jeyaraman.

### **Reference Books :**

1. Clinical Chemistry in diagnosis & treatment – Zilva
2. Principles & Practice of medicine – Davidson.

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**Certificate Programme in Medicinal Chemistry**

**(For the candidates admitted from the academic year 2005-2006 onwards)**

**SCHEME OF EXAMINATIONS**

| <b>Semester</b> | <b>Title of Paper</b>              |  | <b>Marks</b> |
|-----------------|------------------------------------|--|--------------|
| I               | Paper I – Pharmaceutical Chemistry |  | 100          |
|                 | Paper II - Clinical Biochemistry   |  | 100          |
|                 | Paper III - Practical              |  | 100          |
| Total           |                                    |  | 300          |