

**BP602T. PHARMACOLOGY-III (Theory)**

**45 Hours**

**Course Content**

**Unit-I**

**10 hours**

**Pharmacology of drugs acting on Respiratory system:**

Anti-asthmatic drugs.

Drugs used in the management of COPD.

Expectorants and antitussives.

Nasal decongestants.

Respiratory stimulants.

**Pharmacology of drugs acting on the Gastrointestinal Tract:**

Antiulcer agents.

Drugs for constipation and diarrhoea.

Appetite stimulants and suppressants.

Digestants and carminatives.

Emetics and anti-emetics.

**Unit-II**

**10 hours**

**Chemotherapy:** General principles of chemotherapy.

Sulfonamides and Cotrimoxazole.

Antibiotics- Penicillins, cephalosporin, chloramphenicol, macrolides, quinolones and fluoroquinolins, tetracycline and aminoglycosides.

**Unit-III**

**10 hours**

**Chemotherapy:**

Antitubercular agents.

Antileprotic agents.

Antifungal agents.

Antiviral drugs.

Anthelmintics.

Antimalarial drugs.

Antiamoebic agents.

**Unit-IV****08 hours****Chemotherapy:**

Urinary tract infections and sexually transmitted diseases.

Chemotherapy of malignancy.

**Immunopharmacology:**

Immunostimulants.

Immunosuppressant.

Protein drugs, monoclonal antibodies, target drugs to antigen, biosimilars.

**Unit-V****07 hours****Principles of toxicology:**

Definition and basic knowledge of acute, sub-acute and chronic toxicity.

Definition and basic knowledge of genotoxicity, carcinogenicity, teratogenicity and mutagenicity.

General principles of treatment of poisoning.

Clinical symptoms and management of barbiturates, morphine, and organophosphorus compound and lead, mercury and arsenic poisoning.

**Chronopharmacology:**

Definition of rhythm and cycles.

Biological clock and their significance leading to chronotherapy.

### BP608P. PHARMACOLOGY-III (Practical)

4Hrs/Week

1. Dose calculation in pharmacological experiments.
2. Anti-allergic activity by mast cell stabilization assay.
3. Study of anti-ulcer activity of a drug using pylorus ligand (SHAY) rat model and NSAIDS induced ulcer model.
4. Study of effect of drugs on gastrointestinal motility.
5. Effect of agonist and antagonists on guinea pig ileum.
6. Estimation of serum biochemical parameters by using semi-autoanalyzer.
7. Effect of saline purgative on frog intestine.
8. Insulin hypoglycemic effect in rabbit.
9. Test for pyrogens (rabbit method).
10. Determination of acute oral toxicity (LD50) of a drug from a given data.
11. Determination of acute skin irritation / corrosion of a test substance.
12. Determination of acute eye irritation / corrosion of a test substance.
13. Calculation of pharmacokinetic parameters from a given data.
14. Biostatistics methods in experimental pharmacology (student's t test, ANOVA).
15. Biostatistics methods in experimental pharmacology (Chi square test, Wilcoxon Signed Rank test).

*\*Experiments are demonstrated by simulated experiments/videos.*

#### **Recommended Books (Latest Editions)**

- Rang and Dale's Pharmacology by Rang H.P., Dale M.M., Ritter J.M., Flower R.J., Churchill Livingstone Elsevier.
- Basic and Clinical Pharmacology by Katzung B.G., Masters S.B., Trevor A.J., Tata McGraw-Hill.
- The Pharmacological Basis of Therapeutics by Goodman and Gilman's, McGraw Hill, USA.
- Applied Therapeutics: The Clinical Use of Drugs by Marry Anne K. K., Lloyd Yee Y., Brian K. A., Robbin L.C., Joseph G. B., Wayne A.K., Bradley R.W., The Point Lippincott Williams & Wilkins.
- Lippincott's Illustrated Reviews- Pharmacology by Mycek M.J., Gelnet S.B. and Perper M.M.
- Essentials of Medical Pharmacology by K.D. Tripathi, Jaypee Brothers Medical Publishers (P) Ltd, New Delhi.
- Principles of Pharmacology, Sharma H.L., Sharma K.K., Paras Medical Publisher.
- Modern Pharmacology with Clinical Applications by Charles R. Craig & Robert.
- Fundamentals of Experimental Pharmacology by Ghosh M.N., Hilton & Company, Kolkata,
- Handbook of Experimental Pharmacology by Kulkarni S.K., Vallabh Prakashan,
- Concepts in Chronopharmacology by N. Udupa and P.D. Gupta.