

GUJARAT TECHNOLOGICAL UNIVERSITY

Pharm.D. 2nd year

Subject Name: Pharmacology -I

Subject Code: 828804

Scope of the Subject: This subject will provide an opportunity for the student to learn about the drug with regard to classification, pharmacodynamic and pharmacokinetic aspects, adverse effects, uses, dose, route of administration, precautions, contraindications and interaction with other drugs. In this subject, apart from general pharmacology, drugs acting on autonomic nervous system, cardiovascular system, central nervous system, respiratory system, hormones and autotoxins will be taught. In addition to theoretical knowledge, the basic practical knowledge relevant to therapeutics will be imparted.

- Objectives of the Subject:** Upon completion of the subject student shall be able to –
- understand the pharmacological aspects of drugs falling under the above mentioned chapters;
 - handle and carry out the animal experiments;
 - appreciate the importance of pharmacology subject as a basis of therapeutics; and
 - correlate and apply the knowledge therapeutically.

Theory (3 Hours/ Week, Total: 90 Hours)

Teaching Scheme (Hours)				Evaluation Scheme (Marks)				Total marks
Theory	Tutorial	Practical	Total	Theory		Practical		
				External	Internal	External	Internal	
3	1	-	4	70	30	-	-	100

Sr. No.	Course Contents	Hours	Module Weightage
1	General Pharmacology a) Introduction, definitions and scope of pharmacology b) Routes of administration of drugs c) Pharmacokinetics (absorption, distribution, metabolism and excretion) d) Pharmacodynamics e) Factors modifying drug effects f) Drug toxicity - Acute, sub- acute and chronic toxicity. g) Pre-clinical evaluations h) Drug interactions	16	18%
2	Pharmacology of drugs acting on ANS a) Adrenergic and antiadrenergic drugs b) Cholinergic and anticholinergic drugs c) Neuromuscular blockers d) Mydriatics and miotics e) Drugs used in myasthenia gravis f) Drugs used in Parkinsonism	16	18%
3	Pharmacology of drugs acting on cardiovascular system a) Antihypertensives b) Anti-anginal drugs c) Anti-arrhythmic drugs d) Drugs used for therapy of Congestive Heart Failure e) Drugs used for hyperlipidaemias	16	18%

4	Pharmacology of drugs acting on Central Nervous System a) General anesthetics b) Sedatives and hypnotics c) Anticonvulsants d) Analgesic and anti-inflammatory agents e) Psychotropic drugs f) Alcohol and methyl alcohol g) CNS stimulants and cognition enhancers h) Pharmacology of local anaesthetics	16	18%
5	Pharmacology of Drugs acting on Respiratory tract a) Bronchodilators b) Mucolytics c) Expectorants d) Antitussives e) Nasal Decongestants	8	9%
6	Pharmacology of Hormones and Hormone antagonists a) Thyroid and Antithyroid drugs b) Insulin, Insulin analogues and oral hypoglycemic agents c) Sex hormones and oral contraceptives d) Oxytocin and other stimulants and relaxants	10	11%
7	Pharmacology of autocooids and their antagonists a) Histamines and Antihistaminics b) 5-Hydroxytryptamine and its antagonists c) Lipid derived autocooids and platelet activating factor	8	9%

Text books (Theory) (Author, Title, Edition, Publication Place, Publisher, Year of Publication)

- Tripathi, K. D. Essentials of medical pharmacology. Latest Edition. Publisher: Jaypee, Delhi.
- Satoskar, R.S. and Bhadarkar, S.D. Pharmacology and pharmacotherapeutics. Latest Edition. Publisher: Popular, Dubai.
- Rang, H.P. & Dale, M.M. Pharmacology. Latest Edition. Publisher: Churchill Living stone.

Reference books (Theory) (Author, Title, Edition, Publication Place, Publisher, Publication Year)

- Goodman Gilman, A., Rall, T.W., Nies, A.I.S. and Taylor, P. Goodman and Gilman's- The pharmacological Basis of therapeutics. Latest Edition. Publisher McGraw Hill, Pergamon press.
- Craig, C.R.&Stitzel, R.E. Modern Pharmacology. Latest edition. Publisher: Little Brown.Co
Katzung, B.G. Basic and clinical pharmacology. Latest edition. Publisher: Prentice Hall, Int.
- Shargel and Leon. Applied Biopharmaceutics and pharmacokinetics.Latest edition. Publisher: Prentice Hall, London.

