

GUJARAT TECHNOLOGICAL UNIVERSITY

B.Pharm
SEMESTER: VIII

Subject Name: Pharmacology and Pharmacotherapeutics – IV

Subject Code: 2280004

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	Theory		Practical	
				External	Internal	External	Internal
3	0	3	6	80	20	80	20

Sr. No	Course Content	Total Hrs.
1.	Definition, epidemiology, etiology, pathophysiology, signs and symptoms, diagnosis, complications, treatment and management of following diseases/conditions: - Hypertension - Coronary heart disease - Congestive heart failure - Cardiac arrhythmias - Thrombosis - Dyslipidemia - Acute and Chronic renal failure. - Anemia	(20) 3 3 2 2 2 2 4 2
2.	Pharmacology of following class of drugs:- - Diuretics and Antidiuretics - Hematinics and Erythropoietin - Drugs Affecting Coagulation and Bleeding: - Coagulants - Anticoagulants including direct thrombin inhibitors - Fibrinolytics - Antifibrinolytics - Antiplatelet drugs - Plasma Expanders	(8) 2 2 3 1

3	Definition, epidemiology, etiology, pathophysiology, signs and symptoms, diagnosis, complications, treatment and management of following diseases/conditions: • Diabetes mellitus and Hypoglycaemia • Thyroid and Parathyroid disorders • Erectile dysfunction • Menstrual cycle disorders • Bone disorders • Obesity	(12) 3 2 1 3 2 1
4	Pharmacology of following class of drugs: • Estrogens, Antiestrogens, and SERM, Aromatase inhibitors, Progestins, and antiprogestins • Hormonal contraceptives • Androgens and antiandrogens • Oxytocics and Tocolytics	(5) 2 1 1 1

Practical – 22800P4

1.	Introduction to general principles of bioassay, pharmacopoeial bioassays and biostandardization of various drugs
2.	Alternatives to animal experiments (High throughput screening, refinement, reduction, replacement, rehabilitation, in vitro pyrogen test, embryonic stem cell test, local lymph node assay for skin sensitization, skin patch test in human, neutral red uptake assay, carcinogenicity and toxicity tests using cell lines, developmental neurotoxicity tests)
3.	Bioassay of Acetylcholine using Chick/Rat ileum by Graphical method
4.	Bioassay of Acetylcholine using Chick/Rat ileum by matching, method
5.	Bioassay of Acetylcholine using Chick/Rat ileum by three point method
6.	Bioassay of Histamine using Chick/ Guinea pig by matching method
7.	Bioassay of Histamine using Chick/ Guinea pig by three point method
8.	Bioassay of Atropine using Chick/Rat ileum by Graphical method
9.	Simulation Experiments on Cardiovascular System: Effects of Various Drugs on Isolated Frog Heart.
	Case studies (questions based on history, etiology, symptoms, investigations, medications, adverse effects, drug interactions, pharmacists' advice)
10.	To evaluate case study of Hypertension (minimum 3 cases)
11.	To evaluate case study of Congestive Heart failure (minimum 2 cases) To evaluate case study of Angina pectoris (minimum 2 cases)

12	To evaluate case study of thyroid disorders (minimum 3 cases)
13	To evaluate case study of renal failure (minimum 3 cases)
14	To evaluate case study of anaemia (minimum 3 cases)
15	To evaluate case study of Diabetes mellitus (minimum 3 cases)

References Books:

1. Rang, H.P. and Dale, M.M. Pharmacology, 5th edition, 2010. Publisher : Churchill Livingstone.
1. Tripathi K.D., Essentials of medical pharmacology 6th ed, 2010, Jaypee brothers medical publishers pvt, ltd.
2. Goodman Gilman A., Rall T.W., Nies A.I.S. and Taylor, P. Goodman and Gilman's The Pharmacological Basis of therapeutics, 12th edition, 2011. Mc Graw Hill, Pergamon Press.
3. Katzung, B.G. Basic and Clinical Pharmacology, 8th Edition, McGraw Hill, New York, 11th edn, 2009
4. Satoskar, R.S. and Bhandarkar, S.D. Pharmacology and Pharmacotherapeutics, 20th edition (single volume), 2010, Popular, Dubai
5. Kulkarni S.K. Handbook of experimental pharmacology, 3rd edition, 2009, Vallabh Prakashan, New Delhi.
6. Clinical pharmacy and therapeutics . Roger Walker and Cate Whittlesea
7. Textbook of therapeutics. Drug and disease management. Eric T Herfindal Dick R Gourley
8. Fundamentals of experimental Pharmacology. M.N.Ghosh. Hilton and Co.