FACULTY OF PHARMACY
Sixth Semester Bachelor of Pharmacy
In Effect from Academic Year 2018-19

Subject Code: 1PH1010605	**Subject Title:** PHARMACOLOGY AND PHARMACOTHERAPEUTICS–II
Pre-requisite Subject	**- NONE -**

Objectives of course:

1. This subject is intended to impart the fundamental knowledge on various aspects(classification, mechanism of action, therapeutic effects, clinical uses, side effects & contraindications) of drugs acting on different systems of body and in addition it also explain about various diseases/Conditions in detail.

Learning outcomes:

The student should be able to:

1. Understand the pharmacological actions of different categories of drugs
2. Explain the mechanism of drug action at organ system/sub cellular/macromolecular levels.
3. Apply the basic pharmacological knowledge in the prevention and treatment of various diseases.
4. Observe the effect of drugs on animals by simulated experiments and using different animals.
5. Appreciate correlation of pharmacology with other bio medical sciences.
6. Study of various instruments for screening and evaluation of drugs pharmacological activities.

Teaching Scheme (Hours per week)				**Evaluation Scheme (Marks)**					
				Theory(T)		**Practical(P)**		**Total Marks**	
Lecture	**Tutorial**	**Practical**	**Credit**	**University Assessment**	**Continuous Assessment**	**University Assessment**	**Continuous Assessment**	**Theory**	**Practical**
3	0	3	6	80	20	80	20	100	100

Subject Contents			
Sr. No.	**Topic**	**Total Hours**	**Weight (%)**
1	Neuronal transmitters in CNS	04	10
	Pharmacology of following class of drugs:		
	General Anesthetics- classification, mechanism of action, stages of anaesthesia, inhalational and intravenous anaesthetics, pharmacokinetics of inhalational anaesthetics, complications, preanaesthetic medications.	02	05
	Ethyl Alcohol- pharmacological actions, mechanism of actions, pharmacokinetics, drug interactions, contraindications, toxicity, treatment, clinical uses, Disulfiram, Methyl alcohol poisoning and treatment.	02	04
	CNS Stimulants and Psychotomimetic Agents, hallucinogens- classification, individual drugs.	02	04
	Analgesic, Antipyretic, Anti-Inflammatory agents- classification, NSAIDS and Prostaglandin synthesis, pharmacological actions, pharmacokinetics, adverse effects, uses, drug interactions, COX-II inhibitors.	02	04
	Opioid analgesics- classification, pharmacological actions, adverse effects, poisoning and its treatment, uses, opioid receptors and receptor mechanisms, opioid anatagonists, endogenous opioid peptides.	03	07
2	**Definition, epidemiology, etiology, pathophysiology, signs and symptoms, diagnosis, complications, treatment and management of following diseases/conditions:**		
	Insomnia	02	04
	Anxiety	02	04
	Psychosis	03	07

	Depression	03	07
	Mania	02	04
	Epilepsy	03	07
	Parkinsonism	02	04
	Alzheimers disease	03	07
	Gout	02	04
	Rheumatoid Arthritis	02	04
3	**Drug dependence and drug abuse-** drug use, drug abuse, drug induced reward, psychological and physical dependence, tolerance, mechanisms, treatment of various drug addiction- alcohol, tobacco	02	04
4	**Immunomodulators-** immunosuppressant drugs- classification, details of each class, immunostimulants (vaccines, antisera, immunoglobulins)	04	10

List of Experiments:

Practical exercises should be based on theoretical topics. The practical should broadly cover the following:

1. Demonstration **Experiments on Central Nervous System:** Recording of Spontaneous Motor Activity
2. Demonstration **Experiments on Central Nervous System:** Recording of Stereotypy
3. Demonstration **Experiments on Central Nervous System:** Recording of Analgesia
4. Demonstration **Experiments on Central Nervous System:** Recording of Anti-inflammatory
5. Demonstration **Experiments on Central Nervous System:** Recording of Anticonvulsant activity
6. Demonstration **Experiments on Central Nervous System:** Recording of Muscle relaxant activity
7. To find out Nature of Unknown Drugs (Acetylcholine, Histamine, Bacl2, Physostigmine, Atropine, Mepyramine and Papaverine) using Rat/Guinea Pig/Chicken Ileum Preparation.
8. To find out Nature of Unknown Drugs (Acetylcholine, Histamine, Bacl2, Physostigmine, Atropine, Mepyramine and Papaverine) using Rat/Guinea Pig/Chicken Ileum Preparation.
9. To find out Nature of Unknown Drugs (Acetylcholine, Histamine, Bacl2, Physostigmine, Atropine, Mepyramine and Papaverine) using Rat/Guinea Pig/Chicken Ileum Preparation.
10. To find out Nature of Unknown Drugs (Acetylcholine, Histamine, Bacl2, Physostigmine, Atropine, Mepyramine and Papaverine) using Rat/Guinea Pig/Chicken Ileum Preparation.
11. Study on the Effects of CNS Stimulant (Coffee/Tea) on Human Volunteers.
12. Case studies (questions based on history, etiology, symptoms, investigations, medication, adverse effects, drug interactions, pharmacists' advice)
13. a. To evaluate case study of Rheumatoid arthritis (minimum 2 cases)
    b. To evaluate case study of gout (minimum 2 cases)
14. a. To evaluate case study of Parkinson's disease (minimum 2 cases)
    b. To evaluate case study of Alzheimer's disease (minimum 2 cases)
15. a. To evaluate case study of Psychosis or Depression (minimum 2 cases)
    b. To evaluate case study of Anxiety or Insomnia (minimum 2 cases)
16. a. To evaluate case study of Epilepsy (minimum 2 cases)
    b. To evaluate case study of Drug abuse and dependence (minimum 2 cases)

List of References:

1.Rang H.P., Dale M.M., et al-Pharmacology (1995) 3rd Edn. Churchill livingstoneUSA.

2. Satoskar R.S.,et al-Pharmacology and Pharmacotherapeutics (1999) 6th Edn. Popular Prakashan, Mumbai.

3. Harvel, R.A., Champe P.C. et al —Pharmacology (1997) 2nd Edn. Lippincott- Raven Company, Philadelphia,

New York.
4. Goodman and Gilman's —the Pharmacological basis of Therapeutics (1996) 9Edn. Pergamon Press, Singapore.
5. Seth,S.D. Text Book of pharmacology,B.l.Churchill, 1997.
6. Goyal, R.K, Mehta A.A.et al- ELEMENTS OF PHARMACOLOGY: B.S. Shah Prakashan, Ahmedabad
7. Goyal R.K.-Practicals in Pharmacology (1994-95) 1st Edn. M/s B. S. Shah Prakashan, Ahmedabad.
8. Sheth U.K. et al-Selected topics in Experimental Pharmacology(1972)15t Edn.The Kothari Book Depot, Mumbai.
9. Kulakarni S.K.- handbook of Experimental Pharmacology (1993)2fld Edn. allabh Prakashan, New Delhi.
10. Ghosh M.N - Essentials of Experimental Pharmacology,(1984) Scientific book agency, Calcutta.
11. Clinical pharmacy and therapeutics . Roger Walker and Cate Whittlesea
12. Textbook of therapeutics. Drug and disease management. Eric T Herfindal Dick R Gourley

e-Resources:

1. https://www.integrativepsychiatry.net/neurotransmitter.html
2. https://studentconsult.inkling.com/read/rang-dale.../chapter-47-cns-stimulants