Course Type	Course Code	Name of Course	L	T	P	Credit
DC	NCYC501	Basics of Pharmacology	3	1	0	4

Course Objective
• This course enables the students to get fundamental understanding of various disease conditions and the current therapeutic options.
Learning Outcomes
• The topics are framed to enhance students' knowledge of pharmacokinetics, various biological systems and the pharmacological actions of the drugs with relevant case studies.

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	**General Pharmacology-1:** Routes of administration; Pharmacokinetics- Absorption, Distribution, Metabolism, Excretion; Biotransformation-Phase 1 and Phase 2 reactions	8L +2T	Basic concepts of pharmacology Understanding what happens to a drug in the body
2	**General Pharmacology-2:** Pharmacodynamics- Drug targets, , Dose-response curves; Agonists and antagonists; drug inducers and drug inhibitors;	7 L +3T	Understanding how drug interacts with various targets in the body
3	**Nervous System:** **Automic Nervous System:** Cholinergic system, anti-cholinergic system, Adrenergic system, anti-adrenergic system; Drugs associated and their mechanisms of action **Central Nervous system:** Sedatives, Hypnotics, Anti-epileptic drugs, Anti-parkinsonian drugs; anti-depressants;	9 L +3T	Understanding the pathophysiology and therapeutic options for various conditions associated with the nervous system.
4	**Respiratory and cardiovascular systems:** Drugs for cough and bronchial asthma; Renin-Angiotensin system; Pathophysiology and drugs for angina, myocardial infarction and congestive heart failure; Anti-hypertensive drugs; Diuretics	9 L +3T	Understanding the pharmacology of cough, asthma and various cardiovascular diseases.
5	**Other biological systems:** Gastric pharmacology; Autocoids; NSAIDs; Biology of cancer; anti-cancer therapeutics-chemotherapy and targeted therapy;	9 L +3T	Understanding the pharmacology of peptic ulcer and various allergies. Understanding the complex nature of cancer and various therapeutics options involved
	Total	**42L+14T**	

Text Books:

1) Katzung, Bertram G.. (2018). Basic & clinical pharmacology (14th). New York: McGraw-Hill

Reference Books:

1) The Pharmacological Basis of Therapeutics, Louis S. Goodman, Alfred Gilman Sr., Edited by Laurence L. Brunton, John, S.L., K.L. Parker, McGraw Hill Education, 11th Edition (2005).
2) Oxford Textbook of Clinical Pharmacology and Drug Therapy, D.G. Grahame-Smith and J.K. Aronson, Oxford University Press, 3rd Edition (2002).