Dr. A.P.J. ABDUL KALAM UNIVERSITY, INDORE

Course: B.Sc **Semester: I** **Session: 2022-23**
Subject: Pharmaceutical Chemistry(Basic Concepts of Pharmaceutical Chemistry)
Subject Code: ELPC103T

2.	**Course Title**	**Basic Concepts of Pharmaceutical Chemistry**
3.	**Course Type**	Elective
4.	**Pre-requisite (If any)**	To study this course, a student must have had the subject Chemistry in 12th class.
5.	**Course Learning Outcomes**	The course would enable the students to develop the basic concept of pharmaceutical chemistry and their application in daily life. This will provide a foundation for various applied fields in pharmaceutical chemistry. The students will be able to • Describe the basic concept about pharmaceutical chemistry. • Explain the activities of pharmaceutical compounds. • Demonstrate the concept of drug metabolism and pharmacokinetics in human body.
6.	**Credit Value**	**4**

Part-B: Content of the Course

Total numbers of Lectures (in hours per week): 2 hours per week
Total Lectures: 60 hours; L – T – P: 4 – 0 – 0

Units	Topics	No. of Lectures
I	**1. Basic Concepts of Pharmaceutical Chemistry** 1.1 History of pharmacy in India 1.2 Importance of chemistry in pharmacy 1.3 Important aspects of pharmaceutical chemistry 1.4 History of pharmacopeia 1.5 Monograph 1.6 Literature collection 1.7 Data handling and expression of analytical results – documentation and record keeping **Key Word:** Pharmaceutical chemistry, pharmacopeia, monograph, pharmacy, data handling.	10

II	**1. Activity of Pharmaceuticals** 1.1 Synthetic procedures of selected drugs, mode of action, uses, structure activity relationship (including physicochemical aspects) of the following classes of drugs. 1.1.1 Antimetabolites (including sulphonamides). 1.1.2 Chemotherapeutic agents used in Protozoal, Parasitic and other infection 1.1.3 Antineoplastic agents 1.1.4 Anti-viral including anti - HIV agents. 1.1.5 Immunosuppressives and immunostimulants. 1.1.6 Amino acids, peptide, nucleotides and related drugs a. Thyroid and Anti thyroid drugs b. Insulin and oral hypoglycaemic agents c. Peptidomimetics and nucleotide-mimetics. **Key Word:** Chemotherapeutic agents, antineoplastic agents, HIV agents, nucleotides	14
III	**1. Concepts of drugs** 1.1 Classification of drugs based on: 1.1.1 Therapeutic classes 1.1.2 Drug targets 1.1.3 Mechanism of action	10

Part C: Learning Resources

Text Books, Reference Books, Other resources

Suggested Readings:

1. G.R.Chatwal, Pharmaceutical Chemistry Inorganic Vol. I, Himalaya Publishing House, Mumbai.
2. Dr. J. L. Jain, Fundamentals of Biochemistry, S. Chand & Company Ltd. New Delhi.
3. F.S. K. Barar, Essentials of Pharmacotherapeutics. S. Chand & Company Ltd. New Delhi.
4. R. S. Gaud & Dr. G.D. Gupta, Practical Pharmaceutics, CBS Publishers and Distributors, New Delhi.
5. N.C.Choudhary and N.K.Gurbani, Pharmaceutical chemistry.Vallabh Prakashan, Delhi.
6. N. K. Jain, Textbook of Professional Phamacy Vallabh Prakashan. Delhi
7. B.M. Mithal. A text boots of Pharmaceutical formulation. Vallabl Prakashan, Delhi.
8. Stenlake & Beckett, Practical Pharmaceutical Chemistry Part 1, CBS Publishers and Distributor's. New Delhi.

Suggestive digital platforms web links

1. https://ugcmoocs.inflibnet.ac.in
2. https://pharmabookbank.files.wordpress.com/2019/03/12.1.mchem_.pdf

Suggested equivalent online courses: