



DCL-003-1104015

Seat No. _____

M. Sc. (Sem. IV) (CBCS) Examination

July - 2022

C(OP)-404 : Advanced Medicinal Chemistry
(Organo-Pharmaceutical Chemistry)

Faculty Code : 003

Subject Code : 1104015

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) All Questions carry equal marks and all are compulsory.
(2) Draw suitable diagram / Scheme Wherever necessary.

1 Answer the followings : (any seven) 14

- (a) Define the term.; Chemical libraries.
- (b) Enlist the molecular properties to study for QSAR analysis.
- (c) Define the term, Combinatorial Chemistry, write any two examples of spider like molecules.
- (d) Calculate the log(P) value for m-chloro-benzamide using the given value. (Log (P).
Benzene = 2.13, π for Cl = + 0.71 and CONH₂ = -1.49)
- (e) Enlist the Lipinski rules for design the drug molecule.
- (f) Define Prodrug, explain anyone.
- (g) Define the term, Industrial design and write their example.
- (h) Enlist Various tools of IPR.
- (i) Define and classify, polymorphism.
- (J) Define, Pharmacokinetics and pharmacodynamics.

- 2** Answer the followings : (any two) **14**
- (a) Which types of invention are not patentable in India?
 - (b) Write a note on Novelty in details.
 - (c) Write a brief note on Hantzsch analysis methods for QSAR.

- 3** Answer the followings : **14**
- (a) Discuss, Free Wilson methods for QSAR in detail.
 - (b) Outline the fundamental principle underlying the QSAR approach for drug discovery.

OR

- 3** Answer the followings : **14**
- (a) Explain the Parallel synthesizer as a combinatorial Chemistry.
 - (b) Write Gilead synthesis of Oseltamivir Phosphate.

- 4** Answer the followings : **14**
- (a) Which types of molecule is good as a Drug molecule? Plan the synthesis of Benzodiazepine where azepine ring is unsubstituted.
 - (b) Write Corey's synthesis of (S)-Cetirizine.

- 5** Answer the followings : (any two) **14**
- (a) Explain Biotransformation of drug & Give important reactions of Phase-I & II.
 - (b) Classify prodrugs giving atleast three examples.
 - (c) Explain terms, 'hydrates' & 'solvates', and explain, "Enantiotropic Polymorph" & "Monotropic Polymorph".
 - (d) Write UBC synthesis of Cetirizine dihydrochloride.