



**DP-003-1104015**

Seat No. \_\_\_\_\_

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

**March - 2022**

**C(OP)-404 : Pharmaceutical Chemistry**

*(Advanced Medicinal 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, Industrial design and write their example.
- (b) Enlist Various tools of IPR.
- (c) Define the term; Chemical libraries.
- (d) Enlist the molecular properties to study for QSAR analysis.
- (e) Define the term, Combinatorial Chemistry, write any two examples of spider like molecules.
- (f) Calculate the log(P) value for m-chloro-benzamide using the given value. (Log (P) Benzene=2.13,  $\pi$  for Cl=+0.71 & CONH<sub>2</sub> = 1.49)
- (g) Enlist the Lipinski rules for design the drug molecule.
- (h) Define Prodrug, explain anyone.
- (i) Define and classify, polymorphism.
- (j) Define, Pharmacokinetics and pharmacodynamics.

**2** Answer the followings : (Any Two) **14**

- (a) Discuss, Free Wilson methods for QSAR in detail.
- (b) Outline the fundamental principle underlying the QSAR approach for drug discovery.
- (c) Write a brief note on Hantzsch analysis methods for QSAR.

- 3 Answer the followings : 14
- (a) Which types of invention are not patentable in India?
  - (b) Write a note on Novelty in details.

**OR**

- 3 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 Gilead synthesis of Oseltamivir Phosphate.
- 4 Answer the followings : 14
- (a) Explain the Parallel synthesizer as a combinatorial Chemistry.
  - (b) Write Corey's synthesis of (S)-Cetirizine.
- 5 Answer the followings : (Any Two) 14
- (a) Write UBC synthesis of Cetirizine dihydrochloride.
  - (b) Explain Biotransformation of drug & Give important reactions of Phase-I & II.
  - (c) Classify prodrugs giving atleast three examples.
  - (d) Explain terms, 'hydrates' & 'solvates', and explain, "Enantiotropic Polymorph" & "Monotropic Polymorph"
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