



**BBD-003-1104015**

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

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

**July - 2021**

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

**Faculty Code : 003**

**Subject Code : 1104015**

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

[Total Marks : 70

- Instructions :** (1) All Questions carry equal marks.  
(2) Draw suitable diagram / Scheme wherever necessary.  
(3) Attempt any five questions.

- 1** Answer the followings. **14**
- (a) Define the term, Geographic Indication and write their example.
  - (b) Enlist various tools of IPR.
  - (c) Define the term; Chemical libraries.
  - (d) Enlist the molecular properties studies for QSAR analysis.
  - (e) Define the term, Combinatorial Chemistry, write any two examples of spider like molecules.
  - (f) Explain the term Pharmacokinetics.
- 2** Answer the followings. **14**
- (a) Define the term, Patent and what is the life time of Patent?
  - (b) Differentiate tangible and intangible properties, Mention the type of IPR.
  - (c) Enlist the Lipinski rules for design the drug molecule.
  - (d) Calculate the log(P) value for m-chloro-benzamide using the given value. (Log (P) Benzene=2.13,  $\pi$  for C1=+0.71 & CONH<sub>2</sub> = -1.49)
  - (e) Write the merits and demerits of Free Wilson methods for QSAR.
  - (f) Explain the term Pharmacodynamics.
  - (g) Explain the term Biotransformation of Drugs.

- 3 Answer the followings. 14  
(a) Which types of invention are not patentable in India?  
(b) Write a note on Novelty in details.
- 4 Answer the followings. 14  
(a) Outline the fundamental principle underlying the QSAR approach for drug discovery.  
(b) Write a brief note on Hansch analysis methods for QSAR.
- 5 Answer the followings. 14  
(a) Explain the Parallel synthesizer as a combinatorial Chemistry.  
(b) Give a brief account on Mix and Split methods for the combinatorial chemistry.
- 6 Answer the followings. 14  
(a) Which types of molecule is good as a Drug molecule? Plan the synthesis of Benzodiazepine where benzenoid ring is unsubstituted.  
(b) Discuss in details: 3DQSAR.
- 7 Answer the followings. 14  
(a) Give UBC or Corey synthesis of Cetirizine.  
(b) Give Gilead synthesis of Oseltamivir from shikimic acid.
- 8 Answer the followings. 14  
(a) Enlist phase-I, Phase-II reactions and represent few enzymatic conversions of Phase-II reactions.  
(b) Explain Rode-Colavado synthesis of Oseltamivir phosphate.
- 9 Answer the followings. 14  
(a) Discuss in details: Photo tagging methods in combinatorial chemistry.  
(b) Give a brief account on Solid support synthesis for peptide chain.
- 10 Answer the followings. 14  
(a) Write a note on "Patent as an IPR Tool".  
(b) Discuss in details: "Topliss decision tree".
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