



NBX-003-010412 Seat No. _____

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

April / May - 2017

Chemistry : C (OP) - 404

(Advanced Medicinal Chemistry) (Ele. I)

Faculty Code : 003

Subject Code : 010412

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

[Total Marks : 70

Instructions :

- (1) All questions are compulsory.
- (2) All questions carry equal 14 marks.
- (3) Draw suitable diagram / Scheme wherever necessary.

1 Answer the following : (Any seven)

- (a) Explain, pharmacokinetics and pharmacodynamics.
- (b) Define absorption of drugs showing a suitable graph.
- (c) Discuss agonist, antagonist and partial agonist.
- (d) Explain, how side effects of a drug can be used for drug discovery?
- (e) Explain, water and n-octanol are accepted as standard system for determining the partition coefficient.
- (f) Explain, Biotransformation of Drugs briefly.
- (g) Enlist the Resins used for solid phase synthesis.
- (h) Explain and enlist Electronic descriptors used in QSAR along with symbols.
- (i) Explain chiral drugs with suitable examples.
- (j) Explain, "Ficks Law of Diffusion".

2 Answer the following (Any three) .

- (a) Discuss, different chemical means of optimizing drug therapeutic. Discuss characteristics of an ideal prodrug with suitable example.
- (b) Define the terms: Prodrugs, Hard drugs, Xerobitics. List the number of Prodrugs.

- (c) Discuss Corey's asymmetric synthesis of (S) - cetrizine dihydrochloride.
 - (d) Discuss synthesis of Ticlodipine.
- 3** Answer the following : (Any two)
- (a) Discuss the calculation of electronic parameter for the aliphatic systems. Discuss the Taft electronic constant.
 - (b) Discuss free Wilson model in QSAR studies. How it differs from Hantzsch model and discuss their advantages and limitations.
 - (c) Discuss following term briefly :
 - (i) Hydrogen bond donor
 - (ii) Hydrogen bond acceptor.
- 4** Answer the following : (Any three)
- (a) Define Combinatorial chemistry and depicted their aim.
 - (b) Explain how the chemical structure of active molecules is found out in combinatorial chemistry.
 - (c) Discuss different methods of preparation of combinatorial libraries.
 - (d) Discuss the chemical pathway of drug biotransformation.
- 5** Answer the following : (Any three)
- (a) Enlist Phase-I reactions.
 - (b) Discuss phase-II reactions with help examples.
 - (c) Explain dose response curves. What these curves signify?
 - (d) Define the term polymorphism. Explain polymorphism, hydrates and salt form play a role in absorption of drugs in detail.
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