PARANA – II (CBCS): SUMMER - 2015

SUBJECT : ADVANCED PHARMACEUTICAL CHEMISTRY - II

Day : Thursday
Date : 02-07-2015

Time : 10:00AM TO 1:00P.M.
Max. Marks : 60

N.B.:

1) Attempt **ANY THREE** questions from Section – I and **ANY THREE** questions from Section – II.
2) Answers to both the sections should be written in the **SEPARATE** answer books.
3) Figures to the right indicate **FULL** marks.

SECTION – I

Q.1 **a)** Discuss enzyme structure in brief. **[05]**
b) Classify enzyme inhibitors with examples giving salient features of any two types. **[05]**

Q.2 **a)** Describe Wermuth's classification of prodrugs explaining each term with one example. **[05]**
b) List out the pharmacokinetic barriers to a drug's usefulness in clinical practice and explain how they can be overcome by prodrug approach. **[05]**

Q.3 **a)** Explain in details mode of action of DNA intercalating and DNA binding / nicking agents. **[05]**
b) Elaborate upon agents interfering with DNA enzymes with special emphasis on anti-malarial agents. **[05]**

Q.4 Write short notes on **ANY TWO** of the following: **[10]**
a) Cyclo-oxygenase inhibitors
b) HMG – COA inhibitors
c) Twin drugs
d) Inhibitors of transcribing enzymes

SECTION – I

Q.5 **a)** Explain basic rules of disconnection citing examples. **[05]**
b) Outline scheme of synthesis for terfenadine and ciprofloxacin using synthon approach. **[05]**

Q.6 **a)** Enlist various molecular drug targets used in structure- based drug design and write in details about membrane transporters as drug targets. **[05]**
b) What are the various strategies for lead discovery? **[05]**

Q.7 **a)** What are Hit optimization strategies? Explain with examples. **[05]**
b) Differentiate between homodimer and heterodiamer ligands with examples. **[05]**

Q.8 Write short notes on **ANY TWO** of the following: **[10]**
a) Indirect drug design

PARANA – II (CBCS): A SUMMER - 2015

SUBJECT : ADVANCED PHARMACEUTICAL CHEMISTRY - III

Day : Saturday
Date : 04-07-2015

Time : 10:00 AM TO 1:00 P.M.
Max. Marks : 60

N.B.:

1) Attempt **ANY THREE** questions from each section.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION – I

Q.1 Explain various aspects of combinatorial chemistry. **[10]**

Q.2 Discuss asymmetric synthesis of chiral drugs using chiral pool, chiral auxillaries, chiral reagents, catalysts with suitable examples. **[10]**

Q.3 Discuss in detail solid phase peptide synthesis. **[10]**

Q.4 Write short notes on **ANY TWO** of the following: **[10]**

a) Metabolism and drug delivery consequences of peptides and proteins

b) Tags in encoded combinatorial synthesis

c) Chirality and biologic activities

SECTION – II

Q.5 **a)** Elaborate upon life cycle of HIV highlighting the targets for anti HIV drugs development. **[05]**

b) Classify andtiretroviral drugs giving one representative structure for each class. Add a note on their mode of action. **[05]**

Q.6 Discuss the pathophysiology and etiology of Parkinsonism. Also give an account of drugs used in the treatment of Parkinsonism with respect to their mode of action. **[10]**

Q.7 What is molecular modeling? What force fields are used in this study? Describe methods of energy minimization of molecules. **[10]**

Q.8 Write short notes on **ANY TWO** of the following: **[10]**

a) DNA alkylating agents

b) ACE inhibitors

c) Newton methods

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