PARANA – II (2012 COURSE) (CBCS): JULY – 2013
SUBJECT : ADVANCE CORE SUBJECT – II: ADVANCED PHARMACEUTICAL CHEMISTRY – II

Day : Wednesday
Date : 03/07/2013

Time : **10:00 A.M. TO 1:00 P.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 Explain **ANY TWO** of the following: **[10]**

a) ACE inhibitor drugs
b) Xanthin oxidase inhibitor drugs
c) Aromatage inhibitor drugs
d) HMG Co-A reductase inhibitor drugs

Q.2 Explain in detail rationale for the design of noncovalently binding enzyme inhibitors. **[10]**

Q.3 Discuss how pharmacokinetic barriers can be overcome by prodrug approach. **[10]**

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

a) KCat inhibitors
b) Rapid reversible inhibitors
c) Site specific delivery through prodrug
d) Twin drugs

SECTION – II

Q.5 Using Synthon approach, give the retrosynthesis as well as synthesis of **ANY TWO** of the following: **[10]**

a) Terfenadine
b) Ibuprofen
c) Cimetidine
d) Nifedipine

Q.6 Discuss bioisosterism with suitable examples **[10]**

Q.7 Discuss giving examples, catagories and pros and cons of analog design strategy for new lead compounds. **[10]**

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

a) Molecular variations in homologous series
b) Voltage – gated ion channels as drug targets
c) Free Wilson analysis
d) Advantages and drawbacks of QSAR

PARANA – II (2012 COURSE) (CBCS): JULY – 2013
SUBJECT : ADVANCE CORE SUBJECT – III: ADVANCED PHARMACEUTICAL CHEMISTRY – III

Day : Friday
Date : 05/07/2013

Time : **10:00 A.M. TO 1:00 P.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 Discuss synthesis of **ANY TWO** of the following drugs. Give mechanism reaction conditions and stereochemistry wherever applicable. **[10]**

a) Gefitinib
b) Fluoxetine
c) Risperidone
d) Ciprofloxacin

Q.2 What is asymmetric synthesis? Use asymmetric synthesis methods for synthesis of **ANY TWO** of the following drugs: **[10]**

a) Citrenalol
b) Diltiazim
c) Naproxen
d) Thienamycin

Q.3 Discuss various methods to study stability of proteins and peptide drugs. Add a note on somatostatin. **[10]**

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

a) Parallel solution synthesis
b) Encoded library synthesis
c) High throughput screening
d) Linkers and their applications

SECTION – II

Q.5 Classify Anti-arrythmatic agents. Give MOA, of each class and write an account of Class IA drugs. **[10]**

Q.6 What is Cancer? Give classification of anti-cancer agents with examples. Write a detail account of anti-metabolites as anti-cancer agents. **[10]**

Q.7 Give an account of Computer Aided Drug Design. Write an account of principal component analysis and cluster analysis in drug design. **[10]**

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

a) Synthesis of Propranolol and Tolbutamide
b) Drugs used in Parkinson's disease
c) Quantum mechanics and force fields in drug design