

Total No. of Questions : 6]

SEAT No. :

P1462

[5049]-606

[Total No. of Pages : 2

T.Y.B.Pharmacy

BIOORGANIC CHEMISTRY & DRUG DESIGN

(2013 Pattern) (Semester - VI - Theory)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Answers to the two Sections should be written in separate answer books.*
- 3) *Figures to the right side indicate full marks.*

SECTION - I

Q1) Define bioorganic chemistry and explain its significance in designing enzyme inhibitors with suitable examples. **[10]**

OR

Explain DNA as drugs target. Write in detail about intercalation and alkylation mechanism of interaction.

Q2) Attempt any five of the following: **[15]**

- a) Explain role of tyrosine kinase enzyme and comment on tyrosine kinase cascade.
- b) Explain strand breaking by the drugs.
- c) Explain biochemical role of DHFR and its relevance in designing drugs.
- d) Define Molecular recognition and explain its types.
- e) Discuss HMG CoA inhibitors.
- f) Write about dopamine receptors and enlist their antagonists.
- g) Explain hydrolytic cleavage of strand breaking.

Q3) Answer any two of following: **[10]**

- a) Write a note on Topoisomerase II enzyme and their inhibitors.
- b) Explain antisense therapy and give its advantages.
- c) Write a note on structure and function of Thromboxane A₂ receptors.
- d) Write a note on Molecular recognition.

P.T.O.

SECTION - II

Q4) Explain prodrug concept and give its applications. **[10]**

OR

Explain the role of structure-based drug design in drug discovery.

Q5) Attempt any five of the following: **[15]**

- a) Write a note on drug design.
- b) Explain statistical aspects in QSAR.
- c) Write a note on molecular docking.
- d) Explain role of stereochemistry in drug design.
- e) Explain Hansch analysis and Free Wilson analysis.
- f) Write a note on Molecular mechanics.
- g) Comment on software used in ligand and structure-based drug design.

Q6) Answer any two of following: **[10]**

- a) Explain drug discovery process in brief.
- b) Explain ligand-based drug design.
- c) Write a note on 2D and 3D-QSAR.
- d) Write about success stories of structure based drug design.

