Code No. 3165 / CORE

FACULTY OF SCIENCE

M.Sc. IV – Semester Examination, May / June 2018

Subject: Chemistry (Organic Chemistry)

Paper – I: Drug Design and Drug Discovery

Time : 3 Hours **Max. Marks: 80**

Note : Answer all questions from Part–A and Part–B. Each question carries 8 marks in Part–A and 12 marks in Part – B.

PART – A (4 x 8 = 32 Marks)

(Short Answer Type)

1 (a) What is induced fit theory? Explain.
(b) Define and explain the terms pharmacophore and lead with suitable examples.

2 (a) What is the lead modification strategy that is applied on cocaine to get procaine? Explain.
(b) Discuss briefly about SAR of sulfar drugs.

3 (a) Differentiate between active site and allosteric site with an example.
(b) What is partition coefficient? Explain its use in drug designing.

4 (a) Give the structures of any two resins used in solid phase synthesis.
(b) Write short notes on (i) Spider like scaffold (ii) Deconvolution

PART – B (4 x 12 = 48 Marks)

(Essay Answer Type)

5 (a) Explain how captopril is designed enzyme inhibitor from its lead.
(b) What are the different stages involved in drug discovery ? Discuss.

OR

Write a brief note on
(c) Clinical trials
(d) Structure pruning technique

6 (a) Explain the role of the following lead modification strategies in drug designing.
(i) Ring fusion (ii) Extension of structure
(b) How oxaminoquine is discovered? Explain.

OR

(c) Explain the terms bioisoterism and rigidification with suitable examples.
(d) Discuss briefly about SAR in benzodiazepines.

7 Discuss briefly the following:
(a) Topliss scheme (b) Ligand based drug design

OR

(c) Hansch analysis (d) Denovo drug design

8 Explain the following:
(a) Furkas mix and split combinatorial synthesis
(b) Tagging

OR

(c) Discuss Hanghton's tea bag procedure.
(d) Explain high throughput screening (HTS).

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