

FACULTY OF SCIENCE**M. Sc. IV – Semester Examination, May / June 2015****Subject : Organic Chemistry****Paper – II : Mechanism of Action of Drugs****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) Classify the drugs based on target and give one example for each type.
(b) Define and explain the terms : (i) Neuro transmitters (ii) Antagonists
- 2 (a) What are the anti folates? Give two examples and mention their medicinal importance.
(b) Write the structures of the following and mention their use
(i) Nifedipine (ii) Penicillin – G
- 3 (a) Give one example of drug that inhibits the carbonic anhydrase enzyme and formulate its synthesis.
(b) What are DNA intercalating agents? Explain their mode of action.
- 4 (a) Give the biosynthesis of Epinephrine.
(b) Write the structural formulae and explain the biological activity of
(i) Succinyl choline (ii) L-Dopa

PART – B (4 x 12 = 48 Marks)**(Essay Answer Type)**

- 5 (a) Explain the following:
(i) Folate metabolism in bacteria (ii) Enzyme inhibition
OR
(b) Discuss briefly the following:
(i) Immune system (ii) Ion channels
- 6 (a) Explain the mechanism of action of cephalosporin-C.
(b) Outline the synthesis of Dilifiazem.
OR
(c) Formulate the synthesis of amethocaine and explain its mode of action.
(d) Write a brief note on polymixins.
- 7 (a) Give any two examples of drugs that inhibit DNA polymerase and discuss their mode of action.
(b) What are ACE inhibitors? Give the structure of enalapril and mention its medicinal importance.
OR
(c) Formulate the synthesis of ciprofloxacin.
(d) Name any two drugs that inhibit protein synthesis and explain their mode of action.
- 8 (a) Write a brief note on :
(i) Vaccines (ii) β -Blockers (iii) H_1 -antagonists
OR
(b) Formulate the synthesis and discuss the biological activity of
(i) Metaclopramide (ii) Chlorpromazine
