PG – 617

IV Semester M.Sc. Degree Examination, June 2017
(NS) (2010-11 Scheme) (Repeaters)
CHEMISTRY
C-404 OC : Medicinal Organic Chemistry

Time : 3 Hours Max. Marks : 80

***Instruction** : Answer question **1** and **any five** of the remaining.*

1. Answer **any ten** of the following : **(10×2=20)**
   a) What are agonists and antagonists ? Give examples.
   b) Define predrugs and soft drugs with suitable examples.
   c) Mention the factors which enhance the bioactivity of drugs.
   d) How Diel's hydrocarbon is formed ? What is its significance ?
   e) Write the major photoproducts of ergosterol.
   f) Write the structure of streptomycin. Name its three components.
   g) What are oral contraceptives ? Give examples.
   h) Write the mechanism of action of paracetamol.
   i) Explain mode of action of sulphonamides.
   j) Write the synthesis of dapsone.
   k) Mention the functions of neurotransmitters.
   l) How is methyldopa synthesized ?

2. a) Discuss induced-fit theory.
   b) Explain Hansch equation.
   c) Write a note on computer-aided drug design. **(4+4+4=12)**

3. a) How was the nature of side chain established in cholesterol ?
   b) Outline the synthesis of progesterone from diosgenin.
   c) Write the synthesis of androsterone. **(4+4+4=12)**

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4. a) How penicillin is synthesized ?
   b) Elucidate the structure of cephalosporin-c (synthesis not required).
   c) Discuss the structural relationship between terramycin, aureomycin and tetracycline. **(4+4+4=12)**

5. a) Explain use of Barton reaction for the synthesis of aldosterone.
   b) How was the size of ring A of steroids established ?
   c) How ID_{50} and IC_{50} values are determined ? **(4+4+4=12)**

6. a) Write a note on recent development in cancer chemotherapy.
   b) Outline the synthesis of acyclovir.
   c) Explain causes of cardiovascular diseases. **(4+4+4=12)**

7. a) Write the synthesis of ciprofloxacin.
   b) Discuss neurochemistry of mental diseases.
   c) Outline the synthesis of phenobarbital. Mention its mode of action. **(4+4+4=12)**