

IV Semester M.Sc. Degree Examination, June/July 2018
(CBCS Scheme)
CHEMISTRY

C-404 – OC : Medicinal Organic Chemistry

Max. Marks : 70

Time : 3 Hours

Instruction : Answer question No. 1 and any five of the remaining.

(10×2=20)

1. Answer any ten of the following :

- Mention the basics of drug receptor interactions.
- Write the formation, synthesis and significance of Diel's hydrocarbon.
- What are oral contraceptives ? Give examples.
- Draw the structure of streptomycin. Name the components. Mention its uses.
- What are antibiotic agents ? Write the structure with name of first antibiotic agent to be discovered.
- Write the mechanism of drug action of antipyretic agents.
- Mention the biological functions of insulin.
- Sketch the synthesis of acyclovir.
- Explain the recent development in cancer chemotherapy, using synthetic peptide hormones.
- Write the synthesis of 4-aminosalicylic acid.
- What are neurotransmitters ? Give examples.
- Mention the mode of action of hypnotics.

2. a) Discuss the following theories of drug activity :

- occupancy theory
- induced fit theory.

b) How was the nature and position of the side chain in cholesterol established ?

(6+4=10)

3. a) Elucidate the structure of cephalosporin-c.

(6+4=10)

b) Outline the synthesis of chloromycetin.

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4. a) Outline the synthesis of melphalan and give its use.
b) Give the mode of action and sketch the synthesis of chlorpheniramine. (5+5=10)
5. a) Outline the synthesis of ciprofloxacin.
b) Discuss the SAR of barbiturates and anti-epileptic drugs. (4+6=10)
6. a) Sketch the synthesis of progesterone from cholesterol.
b) Discuss the use of Barton reaction for the synthesis of aldosterone. (5+5=10)
7. a) Outline the synthesis of the following :
i) Verapamil
ii) Griseofulvin.
b) Write an account on antipsychotic drugs. Sketch a synthesis of chlorpromazine. (6+4=10)
8. a) Write the synthesis and action of metformin.
b) Explain the role of alkylating agents and antimetabolites in treatment of cancer. (5+5=10)

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