

UUCMS. No.

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B.M.S. COLLEGE FOR WOMEN, AUTONOMOUS
BENGALURU – 560004
SEMESTER END EXAMINATION – SEPT/OCT 2023

M.Sc. in Chemistry – 4th Semester

MEDICINAL ORGANIC CHEMISTRY
(NEP Scheme 2021-2022 Onwards)

Course Code: MCH404T
Time: 3 Hours

QP Code: 14014
Max.Marks:70

Instruction: Answer Question No. 1 and any FIVE of the remaining.

1. Answer any TEN questions

(2X10=20)

- Define pharmacophore with suitable example.
- Classify the drugs based on their chemical structure.
- Differentiate LD₅₀ from ED₅₀.
- Explain the synthesis of Diel's hydrocarbon.
- Convert cholic acid to 5 β -cholanic acid.
- Give structures of any two corticosteroids and mention the uses.
- Write an account of the *in-vivo* formation of histamine. Give its response with H-receptors.
- Point out the main structural features of penicillin responsible for antibacterial activity.
- Outline the synthesis of zidovudine & mention its use?
- Sketch the synthesis of trimethadione?
- Define neurotransmitters? Give an example.
- Draw the general structure of benzodiazepines and highlight its structural features.

2. a) Discuss the rate theory of drug receptor interactions

- Give the Hanch QSAR equation and discuss the importance of parameter involved in the equation. **(5+5=10)**

3. a) Outline the Marker's degradation

- Highlight the usefulness of Bartons's reaction in the synthesis of aldosterone. **(5+5=10)**

4. a) Discuss the structure and sequence of amino acids in the A- and B- chains of insulin.
b) Define anti-virals. Sketch the synthesis of any two adamantane based anti-viral drugs. **(5+5=10)**
5. a) Write the synthesis chloroquine
b) Furnish the synthesis and utility of thiopental sodium. **(5+5=10)**
6. a) Briefly outline the computer-aided drug design and molecular modelling.
b) Write a note on structure activity relationship with its application.
c) Explain Barbier-Wieland degradation and its application in determining the nature of side chain of bile acids ?. **(4+3+3=10)**
7. a) Explain total synthesis of estrogen using Torgov synthesis ?
b) Outline the synthesis of uracil mustard.
c) Explain the synthesis of chloromycetin. **(4+3+3=10)**
8. a) What are phenothiazines ? Explain the mode of action of chlorpromazine.
b) Outline the total synthesis of griseofulvin and discuss its mode of action.
c) What are metabolites and anti-metabolites? Explain with suitable examples. **(4+3+3=10)**
