

[4]

SECTION 'C' $4 \times 10 = 40$

Long Answer questions (Word limit 400-450 words.)

UNIT-I

- Q. 1.** Explain structure determination and stereochemistry of following –
(i) Zingiberene (ii) Carotene

OR

What are alkaloids? Establish the structure of morphine. Also give its synthesis.

UNIT-II

- Q. 2.** What are steroids? Explain stereochemistry and Biosynthesis of cholesterol.

OR

What are plant Pigments? Explain structure determination of Myrcetin and Quercetin

UNIT-III

- Q. 3.** Explain occupancy theory, rate theory and induced fit theories of 'Drug Activity'.

OR

What do you mean by pharmacokinetics and pharmacodynamics? Explain.

UNIT-IV

- Q. 4.** What are Antibiotics? Discuss the structure and synthesis of chloramphenicol.

OR

What are Antimalarials? Explain synthesis and properties of following antimalarials-
(i) Pamaquine (ii) Mepacrine

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[1]

ROLL NO.....

CHE. 401/21

IV SEMESTER EXAMINATION, 2021

M.Sc. (CHEMISTRY)

PAPER-I

NATURAL PRODUCTS & MEDICINAL CHEMISTRY

TIME: 3 HOURS

MAX.- 80

MIN.- 16

Note: The question paper consists of three sections A, B & C. All questions are compulsory.

Section A- Attempt all multiple choice questions.

Section B- Attempt one question from each unit.

Section C- Attempt one question from each unit.

SECTION 'A' $2 \times 8 = 16$

Multiple Choice Questions

- Number of isoprene units in carotenoids -
(a) 5 (b) 6 (c) 7 (d) 8
- Diacetyl derivative of morphine is -
(a) Codeine (b) Heroin (c) Papaverine (d) Thebaine
- In steroidal nucleus the groups denoted by alpha (α) are-
(a) Below the plane of the nucleus and shown by dotted (---) line.
(b) Below the plane of the nucleus and shown by thick (-) line.
(c) Above the plane of the nucleus and shown by dotted (---) line.
(d) Above the plane of the nucleus and shown by thick (-) line.

[2]

4. Molecular formula of Quercetin is -
(a) $C_{15}H_{10}O_8$ (b) $C_{15}H_{10}O_7$
(c) $C_{15}H_{10}O_6$ (d) $C_{15}H_{10}O_5$
5. Which of the following needs to be established before the, search for a lead compound takes place -
(a) The Pharmacophore (b) Structural –activity- relationship
(c) A bioassay (d) Patents
6. The study of absorption, distribution, metabolism and excretion of drug is known as -
(a) Pharmacy (b) Pharmacokinetics
(c) Pharmacodynamics (d) Pharmacopoeia
7. Which one of the following is not an antibiotic -
(a) Streptomycin (b) Tetramycine
(c) Chloramphenicol (d) Primaquine
8. Amino quindine derivative is -
(a) Mepacrine (b) Santoquine
(c) Pamaquine (d) Camoquins

SECTION 'B' 4 × 6 = 24

Short Answer Type Questions (Word limit 200-250 words.)

UNIT-I

- Q. 1. Write structure and synthesis of Farnesol and Abietic acid.

[3]

OR

Explain synthesis and application of Nicotine.

UNIT-II

- Q. 2. Discuss the position of the following in cholesterol –
(i) Angular methyl groups
(ii) Position of side chain
(iii) Position of double bond and hydroxyl groups

OR

Discuss structure elucidation of cyanidin.

UNIT-III

- Q. 3. Write a note on following –
(i) Structure activity relationship (SAR)
(ii) Concept of pro drug and soft drug

OR

Explain procedures followed in drug design.

UNIT-IV

- Q. 4. Discuss structure and properties of following –
(i) Streptomycin (ii) Pyremethamine
- OR
- Explain constitution and properties of following –
(i) Penicillins (ii) Azacrin