

[4]

SECTION 'C'

 $4 \times 10 = 40$

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

UNIT-I

- Q. 1. Discuss classification and general methods for structure determination of Terpenoids.

OR

What are alkaloids? Discuss physiological action of Morphine and Quinine.

UNIT-II

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

OR

What are plant pigments? Discuss general methods used for their isolation and structure determination.

UNIT-III

- Q. 3. What do you mean by the term drug design? Describe the procedures followed in drug design and development of new drug.

OR

Write note on followings –

- (i) Pharmacodynamics
(ii) Occupancy theory of Drug activity

UNIT-IV

- Q. 4. Discuss structure and synthesis of Penicillins.

OR

What are antimalarials? Give the synthesis and properties of following antimalarials -

- (i) Pamaquine (ii) Paludrine

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[1]

ROLL NO.....

CHE. 401/22

IV SEMESTER EXAMINATION, 2022

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

- A terpene with the molecular formula $C_{15}H_{24}$ absorbs 3 molecules of hydrogen to form a saturated hydro carbon $C_{15}H_{30}$. How many double bonds and rings are present in the terpene?
 (a) 2 double bonds, 1 ring (b) 1 double bond, 2 rings
 (c) 3 double bonds, 1 ring (d) 3 double bonds, 2 rings
- Which is not the chemical constituent naturally obtained from opium.
 (a) Morphine (b) Codeine
 (c) Narcotine (d) Heroine

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3. Which is the first intermediate in cholesterol synthesis?
- (a) Mevalonate (b) Isoprene
(c) Squalene (d) Ethylene
4. Number of Hydroxy group in Myricetin is-
- (a) 3 (b) 5 (c) 4 (d) 7
5. The first step in drug, discovery process is-
- (a) Lead modification (b) Lead identification
(c) Lead validation (d) Lead optimization
6. Pharmacodynamics is best defined by which of the following -
- (a) The use of drugs for treatment
(b) How the body moves and affects a drug
(c) How the drug affects the body
(d) The process of a drug entering circulation.
7. Which among the following antibiotics function as protein synthesis inhibitors?
- (a) Penicillin (b) Tetracycline
(c) Cefotaxime (d) Trimethoprim
8. Following all drugs have an asymmetric centre except-
- (a) Primaquine (b) Pamaquine
(c) Pentaquine (d) Quinidine

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SECTION 'B'

4 × 6 = 24

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

UNIT-I

- Q. 1. Write note on following –
- (a) Degradative structure of Nicotine
(b) Isoprene rule

OR

How will you prove the presence and position of aldehyde group in citral?

UNIT-II

- Q. 2. How will you convert cholesterol into testosterone.

OR

How Quercetin is related to cyanidin?

UNIT-III

- Q. 3. Write a note on 'Lead Compound' and Lead modification.

OR

What do you understand by Pharmacokinetic parameters?

UNIT-IV

- Q. 4. Describe structure and synthesis of Streptomycin.

OR

Explain synthesis and properties of anyone of the following -

(i) Pamaquine (ii) Tetracycline