

CHE 510N / CHE 510

M.Sc. (IInd SEMESTER) EXAMINATION, 2024-25

5328

(CBCS MODE)

CHEMISTRY

(Natural Products)



Time : Three Hours]

[Maximum Marks : 75

Note: There are **three** sections (A, B and C) and candidate has to attempt questions from all sections. Marks are indicated against each section.

Section-A

1. Answer **all** questions : 5×3=15
- (a) How will you establish that α -terpineol contains a double bond ? Give reaction.
- (b) How will you obtain n-octane from coniine? Give reaction.
- (c) How will you establish that papaverine contains four Methoxyl group ? Give reaction.
- (d) How will you establish that nicotine is 3-substituted pyridine ?
- (e) How will you establish that reserpine is a diester ?

Section-B

Note: Answer **all** questions of the following : 4×5=20

2. (a) How will you show that geraniol contains a -CH₂OH group ?

Or

- (b) How will you show that papaverine contains a methylene group ?

3. (a) Explain the structural differences between flavones and flavonols.

Or

- (b) Explain the reactions when quercetin is fused with KOH.

4. (a) Give one synthesis of coniine.

Or

- (b) Give one synthesis of nicotine.

5. (a) Elucidate the structure of quininic acid.

Or

- (b) Explain the shikimic acid pathway for biosynthesis of aromatic ring.

Section-C

Note: Answer any **two** questions of the following : $2 \times 20 = 40$

6. (a) How will you confirm the structure of sucrose by periodic acid method ? Give complete reaction.
- (b) How will you establish the structure of lactose.
7. What is the fundamental nucleus of anthocyanins ?
Establish the structure of cyanidin chloride. How is cyanidin chloride responsible for different colour and structure in different chemical conditions.
8. How will you establish the structure of morphine ?
Give one synthesis in support of it.
9. Discuss briefly the biogenetic theories of terpenoids. Illustrate your answer with special reference to acyclic and monocyclic terpenoids.

