



Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD)
Re-accredited with 'A⁺⁺' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

CIA Test I – August, 2025

SEMESTER - III

Class : II UG
Major : Chemistry

Time : 2 hours
Max. Marks : 60

23BCHC06 –Organic Chemistry- III

Course Outcomes : On completion of this course, the students will be able to

1. Distinguish between 1^o, 2^o, and 3^o amines and understand their reactivity.
2. Acquire knowledge on polynuclear hydrocarbon derivatives and their structure
3. Gain idea of reactivity and synthesis of heterocyclic compounds
4. Appreciate the significance of alkaloids and their medicinal importance
5. Gain insight on terpenes and their structure

Part - A

6 x 1 = 6

Choose the correct answer

1. The amine which has highest basicity constant CO1K2
a. 1^o amine b. 2^o amine c. 3^o amine d. 4^o amine
2. Gabriel phthalimide synthesis is used to produce CO1K1
a. 1^o amine b. 2^o amine c. 3^o amine d. 4^o amine
3. Chloropicrin is CO1K1
a. Pesticide b. Bactericide c. Insecticide d. Fungicide
4. The number of π electrons in naphthalene is CO1K3
a. 6 b. 10 c. 12 D. 14
5. The resonance energy of Anthracene is CO2K2
a. 36 kcal/mole b. 61 kcal/mole c. 72 kcal/mole d. 84 kcal/mole
6. The example for the fused ring heterocycle is CO3K2
a. Pyrrole b. Pyridine c. Quinoline d. Thiophene .

Part - B

3 x 6 = 18

Answer the following questions

(Answer should not exceed 400 words)

7. a. Briefly account into Hoffmann's exhaustive methylation. CO1K2
(or)
7. b. How will you distinguish Nitriles and Isonitriles. CO1K3
8. a. Predict the action of nitrous acid with 1^o, 2^o, and 3^o nitro alkanes. CO2K2
(or)
8. b. Discuss about the chemical properties of anthracene. CO2K3
9. a. Give the Haworth synthesis of Naphthalene. CO2K3
(or)
9. b. Compare the aromaticity of pyrrole, furan, thiophene & benzene. CO3K3

Part - C

3 x 12 = 36

Answer the following questions

(Answer should not exceed 800 words)

10. a. Discuss about the following reactions with suitable equations CO1K4
(i) Carbyl amine reaction (ii) Mannich reaction (iii) Hofmann's elimination
(or)
10. b. Distinguish 1^o, 2^o, and 3^o amines by Hinberg and Nitrous acid method. CO1K3
11. a. State & explain in detail about Basicity, Basicity Constants & Relative Basicity of amines. COK3
(or)
11. b. Discuss about the physical & Chemical properties of Naphthalene. CO2K3
12. a. Explain in detail about the structural elucidation of Naphthalene. CO2K4
(or)
12. b. Explain in detail about the structure & aromaticity of pyrrole, furan, & Thiophene. CO2K4