

(6 pages)

Reg. No. :

Code No. : 20328 E Sub. Code : CACH 21

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2025.

Second/Fourth Semester

Chemistry

ALLIED CHEMISTRY — II

(For those who joined in July 2021 and 2022 only)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The most common metal ion present in haemoglobin is
- (a) Fe^{+2} (b) Mn^{2+}
(c) Ni^{+2} (d) Cu^{+2}

2. In $\text{K}_2[\text{Ni}(\text{CN})_4]$ the coordination number of Ni is
(a) 4 (b) 3
(c) 1 (d) 0
3. Number of asymmetric carbon in tartaric acid is
(a) 2 (b) 1
(c) 3 (d) 4
4. Methane is an example for _____ hybridisation.
(a) SP^3 (b) SP^2
(c) SP (d) $d\text{SP}^2$
5. The standard electrode potential of Hydrogen electrode is
(a) 1 (b) -1
(c) 0 (d) 0.2024 v
6. The pH of 0.1M acetic acid is
(a) <1 (b) >1
(c) 1 (d) 7
7. Keratin is an example for _____ protein.
(a) Structural (b) Contractile
(c) Transport (d) Protective

8. The number of Hydroxyl groups in glucose is
(a) 6 (b) 5
(c) 7 (d) 8
9. Aspirin is called
(a) acetyl salicylic acid
(b) phenyl salicylate
(c) methyl salicylate
(d) sodium salicylate
10. The sulpha drug used to cure pneumonia is
(a) Sulpha diacycine (b) Sulpha Pyridine
(c) Sulpha thiazole (d) None of the above

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What do you mean by chelation? Explain.
Or
(b) Explain Werner's theory of co-ordination compounds.

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12. (a) What is racemisation? Explain the mechanism of racemisation.

Or

- (b) Explain optical activity with suitable examples.

13. (a) How is the pH of the solvent is determined by glass electrode?

Or

- (b) Describe conductometric titrations with suitable example.

14. (a) How are proteins classified?

Or

- (b) How is glucose is converted to fructose?

15. (a) Explain about Air borne diseases.

Or

- (b) Define Analgesic and give three examples.

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[P.T.O.]

PART C — (5 × 8 = 40 marks)

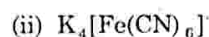
Answer ALL questions by choosing (a) or (b).

Each answer should not exceed 600 words.

16. (a) Write briefly on Pauling's theory.

Or

- (b) Write IUPAC names of the following



17. (a) Discuss the hybridisation of C_2H_4 .

Or

- (b) Write a note on resonance.

18. (a) Define corrosion. Explain the methods to prevent corrosion.

Or

- (b) Define Kohlrausch's law and its applications.

19. (a) Explain the biological role of proteins.

Or

- (b) Establish the structure of glucose.

20. (a) Write short notes on : (i) Whooping cough
(ii) Cholera.

Or

- (b) Explain in details about the following Indian medicinal plants

(i) Tulsi

(ii) Neem.