

(6 pages)

Reg. No. :

Code No. : 20079 E Sub. Code : CECH 54

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

Fifth Semester

Chemistry

Major Elective — APPLIED CHEMISTRY

(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 source of Pyrethrin is _____.
- (a) Plants (b) Insects
(c) Micro organisms (d) None

2. DDT is
- (a) Carbamate (b) Organo phosphate
(c) Organo chlorine (d) Triazine
3. _____ salts of higher fatty acid is called soft soap.
- (a) Na (b) K
(c) Ca (d) None of the above
4. Detergents are
- (a) Cationic (b) Anionic
(c) Zwitter ionic (d) All the above
5. Knocking tendency of diesel oil is expressed in
- (a) Octane number
(b) Cetane number
(c) Iodine value
(d) None of the above
6. Main constituent of LPG is
- (a) Propane and Butane
(b) Methane and Ethane
(c) Methane and Propane
(d) Ethane and Pentane

7. The substance introduced between two moving surface to reduce friction is called

- (a) Lubricant (b) Paints
(c) Adhesives (d) Pigments

8. The most commonly used solid fuel to

- (a) Graphite (b) COCl_2
(c) CdCl_2 (d) CdI_2

9. _____ impacts strength of Cement.

- (a) Silica (b) Alumina
(c) Lime (d) Gypsum

10. Plaster of Paris

- (a) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
(b) $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$
(c) Anhydrous CaSO_4
(d) H_2O_3

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Write about the classification of soap.

Or

(b) What are Detergents? Give its classification.

12. (a) What are the characteristics of good fertilizer?

Or

(b) Give the manufacture of BHC and its uses.

13. (a) Give the chemical composition of Petroleum.

Or

(b) Write a note on thermal cracking.

14. (a) Give the properties and classification of lubricants.

Or

(b) Give the characteristics and uses of TiO_2 .

15. (a) Give the composition of cement.

Or

(b) Write a note on coloured matches.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) What are the common Potassium fertilizers applied to soil and discuss the function of Potassium in plants?

Or

(b) Explain the role of fungicides in plant growth.

17. (a) Explain the raw materials used in the manufacture of soap.

Or

(b) What are the advantages of detergents over soaps?

18. (a) Give the preparation and uses of produce gas and water gas.

Or

Page 5 Code No. : 20079 E

(b) Write a note on : (2 × 4 = 8)

(i) Octane number

(ii) Cetane number

19. (a) Write a note on the following :

(i) Fire retardant paints

(ii) Solvent and thinners.

Or

(b) Explain the primary constituent and manufacture of paints.

20. (a) Give the composition and manufacture of glass.

Or

(b) Write a note on the following :

(i) TNT

(ii) RDX.

Page 6 Code No. : 20079 E