

(6 pages)

Reg. No. : .....

**Code No. : 20480 E**      **Sub. Code : CECH 54**

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2023.

### Fifth Semester

Chemistry

Major Elective — APPLIED CHEMISTRY

(For those who joined in July 2021-2022)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer:

1. Knocking can be prevented by adding \_\_\_\_\_ to petrol.
- (a) lead (b) ethanol
- (c)  $\text{Pb}(\text{C}_2\text{H}_5)_4$  (d) propane
2. \_\_\_\_\_ has good resistant to knocking and orbitarily given the value of 100.
- (a) Iso octane (b) n-heptane
- (c) Pentane (d) Iso butane

3. These are added to paint to reduce cracking.  
(a) Fillers (b) Thinners  
(c) Plasticizers (d) Pigments
4. \_\_\_\_\_ are used as antiskin agent in paints.  
(a) Triphenyl phosphase  
(b) Gypsum  
(c) Silica  
(d) Poly hydroxy phenol
5. 46%  $N_2$  is present in \_\_\_\_\_.  
(a) Urea  
(b) Ammonium Nitrate  
(c) Ammonium Sulphate  
(d) NPK fertilizer
6. Which among the following is a phosphatic fertilizer?  
(a) Ammonium Sulphate  
(b) Calcium Cyanide  
(c) Super Phosphate  
(d) Urea

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7. Glycerol is added to soap because it
- (a) is a filler
  - (b) to increase leathering
  - (c) presents rapid drying
  - (d) to make soap granuls
8. An example of non ionic detergent is
- (a) Polyethylene glycol stearate
  - (b) Sodium Lauryl Sulphate
  - (c) Sodium P-n- dodecyl Benzene sulphonate
  - (d) Cetyl trimethyl ammonium chloride
9. Which explosives are used for primarily mines and demolition explosive?
- (a) TNT
  - (b) Urea nitrate
  - (c) HMTD
  - (d) TATP
10. Which are mentioned below is one of the commercial explosives?
- (a) HMTD
  - (b) Dynamite
  - (c) RDX
  - (d) C4

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PART B — (5 × 5 = 25 marks)  
Answer ALL questions either by choosing (a) or (b).  
Each answer should not exceed 250 words.

11. (a) What are the disadvantages of solid and liquid fuels?

Or

- (b) Write a note on high and low temperature carbonization.

12. (a) What are the primary constituent of paint?

Or

- (b) Write note on addition for lubricating oil.

13. (a) What are contact pesticides give example?

Or

- (b) Write a note on NPK fertilizer.

14. (a) Explain the process of manufacture of soap.

Or

- (b) Give the types of soap and their specific uses.

15. (a) Give the composition of match head.

Or

- (b) Write a note on setting of cement.

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PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Explain any two gaseous fuel you have studied.

Or

- (b) Write a note on  
(i) Thermal Cracking  
(ii) Catalytic cracking.

17. (a) Write a note on Lubricants.

Or

- (b) Write the preparation and classification of adhesives.

18. (a) Write about two phosphatic fertilizers you have studied.

Or

- (b) Write a note on  
(i) Bordeaux Mixture  
(ii) Lime Sulphur

19. (a) Explain the classification of Detergents with examples.

Or

- (b) Write a note on  
(i) Surface active agents  
(ii) Cleaning action of Detergents.

20. (a) Write a note on refractory material.

Or

- (b) Explain the manufacture of safety matches.

