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Reg. No. :

Code No. : 20332 E Sub. Code : CSCH 42

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

Fourth Semester

Chemistry

Skill Based Subject – INDUSTRIAL CHEMISTRY

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

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The ions responsible for the hardness of water is _____

- (a) zinc and copper
- (b) calcium and magnesium
- (c) iron and copper
- (d) nickel and copper

2. Microorganism in the water can be removed by _____ Process.

- (a) ion-exchange
- (b) desalination
- (c) sedimentation
- (d) chlorination

3. Identify a name of the petroleum product from the following.

- (a) NaCl
- (b) Vinyl acetate
- (c) Ethyl benzoate
- (d) Citral

4. Petroleum is a mixture of _____

- (a) salt
- (b) organic acid
- (c) hydro carbons
- (d) inorganic acids

5. Lead storage battery is an example of _____

- (a) primary battery
- (b) secondary battery
- (c) non-rechargeable battery
- (d) solar cell

6. The negative electrode in lithium battery is made up of _____

- (a) Lithium oxide
- (b) Lithium cobalt oxide
- (c) Li metal
- (d) Graphite

7. The corrosion of iron is prevented by _____ coating.
- (a) Zinc (b) NaCl
(c) Peroxide (d) Acid
8. Which of the following method is applicable to prevention of corrosion?
- (a) Protective coating (b) Salting
(c) Acid coating (d) Alkali coating
9. Gypsum is a raw material for the preparation of - _____
- (a) Wax candle (b) Shoe polish
(c) Plaster of Paris (d) Naphthalene ball
10. Raw material for the preparation of Chalk is _____
- (a) lime stone (b) lead carbonate
(c) cement (d) calcium carbide

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Predict a suitable methodology for the estimation of hardness.
Or
(b) Criticize the role of chlorination process in the water treatment process.
12. (a) Discuss the recent advances in fuel technology.
Or
(b) What is compressed gas? Give its composition.
13. (a) What are primary and secondary batteries? Give example.
Or
(b) Discuss the components of lithium battery.
14. (a) Discuss the mechanism of corrosion.
Or
(b) Summarize the principle of electroplating process.

15. (a) What is plaster of Paris? Give its uses.

Or

(b) Write the raw materials used for the preparation of shoe polish and wax candle.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Evaluate the role of ion exchange process and zeolite process in softening the hard water.

Or

(b) Criticize the effect of iron and manganese in water.

17. (a) Explain the following and give their composition :

(i) LPG (4)

(ii) Bio gas (4)

Or

(b) Discuss the refining of petroleum.

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18. (a) What are insulating materials? Tabulate their classification.

Or

(b) Enumerate the principle and working of lead acid battery.

19. (a) Summarize the importance of paints and pigments in corrosion protection.

Or

(b) Describe anodic and cathodic protection for the control of corrosion.

20. (a) Describe the preparation of fountain pen ink.

Or

(b) Write the raw materials and preparation of wax candle.

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