(6 pages)　　　　　Reg. No. : _____

Code No. : 20472 E　　Sub. Code : CSCH 42

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

Fourth Semester

Chemistry

Skill Based Subject – INDUSTRIAL 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. Total hardness due to the presence of

    (a) bicarbonates of Ca and Mg

    (b) chlorides of Ca and Mg

    (c) sulphates of Ca and Mg

    (d) both (b) and (c)

2. Hard water can be softened by

    (a) Limesoda process

    (b) Zeolite process

    (c) Ion exchange process

    (d) All the above

3. LPG contains

    (a) C_3 and C_4 hydrocarbon

    (b) C_1 and C_2 hydrocarbon

    (c) C_2 and C_3 hydrocarbon

    (d) All the above

4. Reforming is the process used to _____ octane number of petrol.

    (a) Increase　　　　(b) Decrease

    (c) No change　　　(d) None of the above

5. _____ varnish is called French varnish and used for furniture.

    (a) Oil　　　　　(b) Sprit

    (c) Acrylic　　　(d) Water

6. A fuel cell is used to convert chemical energy to _____.

    (a) Mechanical energy (b) Solar energy

    (c) Electrical energy (d) Potential energy

7. Descaling can be done

    (a) Acid treatment

    (b) Abrasion using every paper

    (c) With Solvenes

    (d) Both (a) and (b)

8. The fraction obtained by the distillation of crude petroleum at 300 – 350°C is called _____.

    (a) Disel oil　　　(b) Petrol

    (c) Light oil　　　(d) Pitch

9. The Gum paste contains _____.

    (a) Potato starch　(b) $CaCl_2$

    (c) $ZnCl_2$　　　(d) All the above

10. Plaster of Paris

    (a) $CaSO_4 \frac{1}{2} H_2O$

    (b) $CaSO_4 2H_2O$

    (c) $CaSO_4 5H_2O$

    (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 demineralisation of water? Explain the process.

    Or

    (b) How will you estimate hardness of water of O. Hehener's method?

12. (a) What is meant by refining of petroleum?

    Or

    (b) Differentiate between Disel and Petrol.

13. (a) Write a note Lithium battery.

    Or

    (b) Explain about Polymer Cell.

14. (a) Explain the types of protective coatings.

    Or

    (b) Write a note on pigments used in painting.

15. (a) Write a note on wax candles.

    Or

    (b) Give the preparation and uses of Naphthalene Balls.

PART C — (3 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Describe softening of water by Lime-Soda method.

Or

(b) Explain the functioning of permutit softener.

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

(i) Natural gas

(ii) Compressed gas.

Or

(b) Write the applications of (i) Butadiene (ii) Propylene oxide.

18. (a) What are the requirements for a material to be a good electrical insulating material?

Or

(b) Write a note on Lead Acid battery.

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19. (a) Write a note on Cathodic and Anodic protection.

Or

(b) Write a note on the following

(i) Polishing

(ii) Galvanizing

20. (a) Give the preparation and uses of the following

(i) Shoe polish

(ii) Fountain pen ink.

Or

(b) Write a note on :

(i) Silicone carbide crucibles

(ii) Agarbathis.

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