

(6 pages)

Reg. No. :

Code No. : 5809

Sub. Code : WCHSE 21

M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2024

Second Semester

Chemistry

Skill Enhancement Course — INDUSTRIAL
CHEMISTRY

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer:

1. Emulsion paints contains

- (a) Nitro Cotton (b) Zinc white
(c) White lead (d) Polyvinyl acetate

2. Anticorrosive paint is _____ in colour.

- (a) Blue (b) White
(c) Black (d) Yellow

3. Synthetic rubber paints are prepared from

- (a) Resin (b) Rubber
(c) Synthetic fibres (d) Polyvinyl chloride

4. The lemon yellow colour of the glass is due to the addition of

- (a) Ferric salt (b) Chromium salt
(c) CH_2O (d) CdS

5. Optical glass contains

- (a) Silica (b) Cerium oxide
(c) Cryolite (d) Sodium carbonate

6. Glass is a mixture of

- (a) Non-metallic silicates
(b) Metallic silicates
(c) Metallic acetates
(d) Non-metallic acetates

7. The reaction of cement with water liberates a heat, this process is known as

- (a) Curing (b) Mixing
(c) Heat of hydration (d) Placing

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8. Why is natural cement used very limitedly?
(a) Brown colour
(b) Standard consistency is not met with
(c) Sets too quickly
(d) Particle size is too fine
9. Which raw material is a primary component of cement production?
(a) Sand (b) Water
(c) Clay (d) Plastic
10. Which of the following is a non-petroleum source?
(a) CaC_2 (b) H_2S
(c) Paraffin (d) Olefin
11. Which of the following process is used to convert the mixture of saturated hydrocarbons obtained from petroleum into more reactive material?
(a) Hydrogenation (b) Acidification
(c) Alkylation (d) Chlorination
12. Which of the following product is obtained by controlled oxidation of liquified petroleum gas (LPG)?
(a) Fatty acid (b) Acetylene
(c) Acetic acid (d) Sulphuric acid

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13. Waste containing phosphorous are usually treated with
(a) Sanitary waste (b) Flocculating agents
(c) Silicons (d) Reducing bacteria
14. The foaming agent used in the floating process to reduce the surface tension is _____.
(a) Cyanides (b) Cresol
(c) Sodium sulphates (d) Nitrites
15. Acid sewage is neutralized with
(a) Calcium hydroxide (b) Aluminum nitrate
(c) Zinc oxide (d) Magnesium chloride

PART B — (5 × 4 = 20 marks)

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

Each answer should not exceed 250 words.

16. (a) Discuss about the characteristics of pigments.
Or
(b) What are the function of vehicle and solvent?
17. (a) Define glass. How will you prepare lead glass and optical glass?
Or
(b) Explain about white wares.

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[P.T.O.]



18. (a) What is cement? Analyze its components.

Or

- (b) Explain Reinforced concrete.

19. (a) Explain fractional distillation.

Or

- (b) Discuss about the composition of crude petroleum.

20. (a) Write a note on hazardous and non-hazardous waste.

Or

- (b) Discuss about biological treatment of waste.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

21. (a) Write down the preparation and properties of green pigments and yellow pigments.

Or

- (b) Write a short note on dyes and resins.

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22. (a) Write down the properties and compositions of the followings :

- (i) Soda lime glass (ii) Photosensitive glass
(iii) Borosilicate glass (iv) Coloured glass

Or

- (b) Explain plasticity of clay and white wares.

23. (a) Discuss the manufacture and the composition of Portland cement.

Or

- (b) Discuss about the chemistry of raw material used in cement.

24. (a) Write a note on thermal and catalytic cracking.

Or

- (b) Explain about the refining of crude petroleum and types of petroleum products.

25. (a) How will you classify waste and explain about its source and composition?

Or

- (b) Discuss about waste utilization and material recovery.

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