

D 121211

(Pages : 2)

Name.....

Reg. No.....

**FOURTH SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, APRIL 2025**

(CBCSS)

Chemistry

CHE 4E 04—PETROCHEMICALS AND COSMETICS

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

Section A*Answer any **eight** questions.**Each question carries a weightage of 1.*

1. What is the difference between leaded and unleaded petrol ? Which is more nature-friendly and why ?
2. Write the structure of :
 - (i) Butylenes ; and
 - (ii) Aromatics obtained from petroleum.
3. How is ethyl acetate manufactured and what are its industrial applications ?
4. Why the presence of sulphur compounds in petroleum is undesirable ? How can these be removed ?
5. What methods are used to destroy emulsions in petroleum crude ?
6. Explain the nature and composition of jet engine and gas turbine fuels manufactured in petroleum industry.
7. What are the dye intermediates industrially produced as part of petroleum products ?
8. What is Demercaptanisation ?
9. What are shampoos made of ? How are these different from soap ?
10. What are colognes and what are their components ?

(8 × 1 = 8 weightage)

Turn over

Section B

*Answer any **six** questions.
Each question carries a weightage of 2.*

11. Explain the significance of Octane Number. How is it assigned ?
12. Write an account of the major unsaturated hydrocarbons obtained from natural gas. State their respective uses.
13. Discuss the manufacture and uses of acetylene, phenol and ethylene glycol in chemical industry.
14. Define flash and fire points of petroleum products. How are these determined ?
15. Write an account of the fundamentals of petroleum preliminary distillation.
16. Which are the petroleum-crude based lubricants that are manufactured in petroleum industry ? How are these obtained ?
17. Explain the sulphuric acid and alkaline purification methods of petroleum products.
18. Describe the components and recipe for hair colorants and hair curlers.

(6 × 2 = 12 weightage)

Section C

*Answer any **two** questions.
Each question carries a weightage of 5.*

19. Describe the process of crude oil refining, the products arising from refining and their uses.
20. Write an account of the chemical processing of paraffin, ethylene, acetylene and aromatic hydrocarbons.
21. Describe the major equipments employed in the distillation of crude petroleum.
22. Write an account of natural and synthetic perfumes, with emphasis on source, chemical structure, their formulation and production.

(2 × 5 = 10 weightage)