

**FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, MARCH 2020**

(CUCSS)

Chemistry

CH 4E 04—PETROCHEMICALS AND COSMETICS

Time : Three Hours

Maximum : 36 Weightage

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

1. Name the different sulphur compounds present in crude oil.
2. Mention the differences between thermal and catalytic cracking.
3. Generally catalysts leading to complete oxidation are not used in petrochemical process. Why ?
4. Hydrodealkylation is required in refining of petroleum products. Why ?
5. What is rectified spirit ? How is it converted to absolute alcohol ?
6. What is the role of sulphuric acid in petroleum refining ?
7. Define flash and fire points of diesel fuel.
8. Explain the anti knock rating of petrol.
9. What is the purpose of Hydrorefining of petroleum products ?
10. Explain the term 'Demercaptanisation'.
11. What are the ingredients of tooth paste ?
12. What are antiperspirants ?

(12 × 1 = 12 weightage)

**Section B***Answer any eight questions.**Each question carries a weightage of 2.*

13. What are the various products obtained during refining of petroleum and mention their uses ?
14. What is meant by reforming ? Discuss about the different reforming catalysts used in petroleum industry.
15. Discuss the various reaction steps involved in the manufacture of acetylene from coal. Also mention the reaction conditions.

**Turn over**

16. Distinguish between Octane number and Cetane number.
17. Brief one method for finding out viscosity of petroleum.
18. Give a brief note on Hempel distillation curve.
19. Discuss about the composition of crude petroleum.
20. How are rectification and distillation of crude petroleum related ? Explain.
21. Give notes on : (i) fuel oil (ii) lubricating oil.
22. Differentiate absorptive and adsorptive purification of petroleum products.
23. What are the compounds used for fruity odour in perfumes ? Give their structures.
24. What are artificial flavours ? How are they produced ?

(8 × 2 = 16 weightage)

### Section C

*Answer any two questions.*

*Each question carries a weightage of 4.*

25. Give an account of major unsaturated hydrocarbons obtained from petroleum.
26. With the help of a flow sheet, discuss the distillation of crude petroleum.
27. Write down the synthesis of the following :
  - (i) Acetaldehyde.
  - (ii) Ethylene glycol.
  - (iii) Glycerine.
  - (i) Phenol.
28. Discuss the role of Esters, Alcohols, Ketones, Ionones and nitormusks in perfumes.

(2 × 4 = 8 weightage)