

PART B (10 x 2 = 20 Marks)
(Answer not more than 40 words)

11. What is extractive distillation?
12. What is the need for petroleum recovery?
13. Define Visbreaking.
14. Differentiate polymerization and Isomerization.
15. How is ethylene glycol manufactured?
16. Compare direct and indirect hydration of propylene.
17. Define kinematic viscosity.
18. State the significance of pH measurement in petrochemical industries.
19. Define Dead Time.
20. Bring out the control systems used in a refinery?

PART C (5 x 14 = 70 Marks)
(Answer not more than 400 words)

Q.No. 21 is Compulsory

21. (i) With a neat sketch explain refining of crude oil. Also discuss in detail about the petroleum exploration. (12)
(ii) When is compression and liquefaction suitable for a mixture? (2)
22. (a) Elaborate fluidized bed catalytic cracking method with a neat sketch.
(OR)
(b) Elaborate on the process for production of ethylene.
23. (a) Name the various methane derivatives and brief about them.
(OR)
(b) Explain the production of Ethanol from Ethylene.
24. (a) (i) Why is intrinsic and electrical safety important in an industry and how is it achieved? (7)
(ii) Discuss in detail the factors to be considered in the selection of measuring instruments. (7)
(OR)
(b) Elaborate on flow and level measuring instruments in the petroleum industry.
25. (a) Explain the operations and the control configurations for a distillation column.
(OR)
(b) Explain in detail the process control system for Pyrolysis unit with the help of a P&I diagram.
