

28/12/07

Question No. 1 is compulsory.  
 Attempt any four questions out of remaining six questions.  
 Figures to the right indicate full marks.  
 neat diagrams must be drawn wherever necessary.

- Give a brief outline of crude oil fractionation with necessary diagram. Specify the boiling ranges of the fractions obtained from ADU. 10
- Name the sulfur compounds present in crude oil and its fractions. What are the effects of these groups of compounds? What are the methods available for the removal of sulfur in crude oil? Explain any one method with the diagram. 10
- Discuss in brief the application of solvent extraction process in Lubricating oil Manufacture. What are the factors based on which the selection of a solvent is done for the extraction of a lubricating oil? 10
- Discuss the impact of process variables on the Alkylation's phenomena using Hydrofluoric acid and sulfuric acid as catalysis. 10
- What are the advantages of reforming processes? Explain any one reforming process in detail. 10
- Explain hydro cracking process with suitable flow diagram. 10
- Give different types of Asphalt. Explain air blowing of bitumen process with proper flow diagram. 10
- Distinguish between : 10
  - (i) Hydro treatment and Hydrodesulphurization
  - (ii) Pump around and Pump back reflux.
- Write in detail the process of visbreaking giving operation, conditions and neat flow diagram. 10
- Define and discuss, importance of following :— 10
  - (i) Oxidation stability
  - (ii) Aniline point
  - (iii) Pour point.
- Explain urea Dew axing process in detail with the diagram. 10
- What are the wastes generated by Petroleum industries? How it can minimized? 10
- Why Up gradation is required in petroleum industries? Explain any one Up gradation technique with the examples. 10
- Explain what do you understand by coking process? Give the difference between Fluid cooking and Flexi cooking. 10