

Part -1(2X20 =40 Marks)

Q1 (a) True or False (1X10 =10 Marks)

- I. Soaker visbreaking is a thermal cracking process
- II. Sulphur is a measure of sourness of crude oil
- III. Isomerization is a catalytic process.
- IV. Thermal cracking of hydrocarbons starts at 300 deg.centigrade
- V. India is a gasoline centric country
- VI. Sulfolane is the preferred solvent for light aromatic extraction.
- VII. Hydro-cracking gives poor quality of diesel.
- VIII. Steam cracking is the process for production of base petrochemicals.
- IX. Fuel VDU provides wide fractions to be used as feedstock for secondary units.
- X. The smallest refinery in our country is in Andhra Pradesh.

Q1 (b) Differentiate between: (5x2 = 10 marks)

- i. Octane number & Cetane number
- ii. Pour Point & Freezing Point
- iii. CO boiler & Waste heat boiler
- iv. MON & RON
- v. Gap & Overlap

Q2. Write short notes: (5x4=20 Marks).

- a. TBP Distillation.
- b. Reforming process.
- c. Hydro Desulphurization.
- d. Liquid-Liquid extraction.

Part-2 (3X20=60 Marks)

Q3. Describe various types of impurities present in crude oil. Give details of the process technology used to remove the impurities before the crude is feed to the distillation tower for further processing

or

Q4. Describe process configuration, system description and process parameters of various version of hydro processing technology used in refinery.

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- Q5.** Describe various technology blocks in conventional lube refinery and the purpose of each one of them to produce quality LOBS. What are the emerging technology options to manufacture good quality LOBS in high yields from highly paraffinic crude such as Mumbai high?
- Q6.** What are Petrochemicals and how are they classified ? List out derivatives of ethylene, propylene & benzene. Draw a typical schematic diagram giving a complete structure of petrochemical complex.

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