

B.TECH
(SEM VIII) THEORY EXAMINATION 2018-19
PETROLEUM ENGINEERING

Time: 3 Hours**Total Marks: 100****SECTION A****1. Define the following questions:****2 x 10 = 20**

- a. Viscosity index
- b. Char value
- c. Smoke point
- d. Aviation Turbine Fuels
- e. Cetane number.
- f. Copper Strip Corrosion Test
- g. Drop point of grease
- h. Carbon residue
- i. Aniline point
- j. Water separation index

SECTION-B**2. Attempt any three of the following:****10 x 3 = 30**

- a. Discuss the main characteristics of crude oil. Give the classification of crude oils.
- b. Draw flow diagram of MEROX treatment and Doctor's sweetening method for sulphur removal.
- c. Draw Vacuum distillation unit and Atmospheric distillation for crude residue.
- d. Explain the phenol extraction process and furfural extraction process. State different solvents used for solvent extraction process.
- e. Write the process used to convert hydrogen sulphide to sulphur. Discuss the Claus Sulphur Conversion process with the help of neat flow sheet.

SECTION C**3. Attempt any one part of the following:****10 x 1 = 10**

- a. Differentiate between thermal cracking & catalytic cracking. Effect of temperature and pressure on catalytic reforming.
- b. Explain the Solvent extraction Sulfolane process and Udex process with the help of neat flow sheet.

4. Attempt any one part of the following:**10 x 1 = 10**

- a. List out various methods of De-waxing without solvent and explain any one.
- b. Draw flow diagram of Vis-breaking. Discuss the Conventional and Soaker Vis-breaking Process.

5. Attempt any one part of the following:**10 x 1 = 10**

- a. Explain Delayed Coking, Fluid Coking and Flexi coking process.
- b. Explain Softening point, Cloud point and Pour with their significance.

6. Attempt any one part of the following:**10 x 1 = 10**

- a. What is catalytic isomerisation? Explain UOP penex process with the help of flow sheet.
- b. Describe physical properties of Kerosene. Draw flow diagram of SO₂ solvent extraction method for treatment of kerosene.

7. Attempt any one part of the following:**10 x 1 = 10**

- a. Explain electrical desalting of crude oils with neat sketch.
- b. Discuss the Conradson method and Ramsbottom method for Carbon Residue.