

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VIII • EXAMINATION – SUMMER 2014

Subject Code: 180502**Date: 31-05-2014****Subject Name: Petroleum Refining and Petrochemicals****Time: 10:30 am TO 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Discuss the composition of Petroleum and general properties of homologous series. **07**
 (b) Differentiate between thermal cracking and catalytic cracking. **07**
- Q.2** (a) Explain Atmospheric distillation and Vacuum distillation of crude oil explaining difference between them. **07**
 (b) Why coke should be removed from crude? Discuss process of flexi coking in detail. **07**
- OR**
- (b) Differentiate between moving bed crackers and fluidized bed crackers. Explain working of Air lift thermofor catalytic cracker with neat sketch. **07**
- Q.3** (a) Discuss thermal properties of petroleum fractions in detail. **07**
 (b) Describe Catalytic desulfurization with neat diagram in detail. **07**
- OR**
- Q.3** (a) Define and explain significance: 1.Cetane number 2.Smoke point 3.Characterization factor. **07**
 (b) Why dewaxing is necessary? Discuss MEK dewaxing with neat flow diagram. **07**
- Q.4** (a) Discuss major engineering problems, properties and uses of Acetic acid. **07**
 (b) Write short note on Aviation turbine fuels. **07**
- OR**
- Q.4** (a) Describe with diagram the manufacturing process of LDPE along with its properties and uses. **07**
 (b) Explain manufacturing of ethylene via steam cracking of Naphtha and gas oil. **07**
- Q.5** (a) Discuss major Engineering problems involved in the production of SBR. **07**
 (b) Define petrochemicals and list out important raw materials commonly used in manufacture of petrochemicals. Name important petrochemical plants in India. **07**
- OR**
- Q.5** (a) Describe manufacture of Poly vinyl chloride with neat flow sheet along with its application. **07**
 (b) Discuss manufacture of Ethylene glycol with neat flow diagram. **07**
