

Code No: 137ST

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, December - 2019

PETROCHEMICAL ENGINEERING

(Petroleum Engineering)

Time: 3 Hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b as sub questions.

## PART – A

(25 Marks)

- 1.a) What is proven reserves of oil? [2]
- b) Write the composition of pyrolysis gasoline. [3]
- c) What is methane reformer? [2]
- d) Write the latest developments of steam cracking of naphtha. [3]
- e) Write the common types of polyethylene. [2]
- f) Write the properties of LLDPE. [3]
- g) What is aryl hydrocarbon? [2]
- h) Write the Examples of non-benzene compounds with aromatic properties. [3]
- i) Write the properties of acrylic fiber. [2]
- j) Write the Examples of natural fibers. [3]

## PART – B

(50 Marks)

2. Explain about structure of the petrochemical complexes. [10]
- OR
3. Detail about natural gas and petroleum fractions as petrochemicals feedstock. [10]
4. Discuss about the ethylene production and manufacturing process. [10]
- OR
5. Explain about gas cracking for production of olefins. [10]
6. What is maleic anhydride? Why it is useful? Write the uses, properties and applications of maleic anhydride. [10]
- OR
7. Write the advantages, disadvantages and applications of LDPE. [10]
8. Describe the process of catalytic reforming. [10]
- OR
9. Explain about emerging technologies for the production of BTX. [10]
10. Explain the manufacturing process of caprolactam. [10]
- OR
11. Write the properties of nylon and differentiate the characteristics of Nylon 6 & 66. [10]