

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Summer 2018 - 19 Examination

Semester: 5
Subject Code: 03103330
Subject Name: Petrochemical Technology

Date: 21/05/2019
Time: 10:30am to 1:00pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions.**(15)**

1. Synthesis Gas means
 - a) CO + H₂
 - b) CO₂
 - c) H₂
 - d) Both (b) and (c)
2. Which of the following hydrocarbons has maximum Octane number?
 - a) Benzene
 - b) Cyclohexane
 - c) Hexane
 - d) None of above
3. Vis-breaking is
 - a) Reduction of Temperature
 - b) Enhancement of Velocity
 - c) Reduction of Viscosity
 - d) Both (a) and (b)
4. Which of the following is the cracking process?
 - a) Pyrolysis
 - b) thermal cracking
 - c) Biological reduction
 - d) Both a & b
5. Which of the following hydrocarbons are the most desirable in Kerosene?
 - a) Paraffins
 - b) Isoparaffins
 - c) Naphthenes
 - d) Aromatics
6. is defined as that to minimize energy consumption and maximize Heat recovery.
7. Define the term Initiation.
8. What is Steam cracking?
9. Catalyst is used in production of Formaldehyde.
10. What do you mean by Catalytic cracking?
11. Which catalyst is used in the Production of Acetic Acid?
12. Solution is used to remove the impurities for the production of the Methanol.
13. Why ethylene is called king of chemicals?
14. Cracking is a/an _____ reaction.
15. Write down four applications of Polyethylene.

- Q.2 Answer the following questions. (Attempt any three) (15)**
- A.** Define: Initiation, Propagation and Termination for Thermal cracking.
 - B.** Explain Soaker Technology with neat flow sheet.
 - C.** Explain the major Primary reactions in Catalytic cracking.
 - D.** Explain convection zone and Radiation zone in Naphtha cracking.

Q.3 A) Write a short note on uses of miscellaneous materials with the reference to Petroleum. (07)

B) Explain Hydrocracking with flow sheet. (08)

OR

B) Explain Manufacturing of Methyl Alcohol. (08)

Q.4 A) Write a short note on Fluid Catalytic Cracking. (07)

OR

A) Explain with flow sheet of manufacturing of Formaldehyde. (07)

B) Write a short note on Production of Ethylene. (08)