

Printed Pages : 3



ECH063

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 151857

Roll No.

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B. Tech.

(SEM. VIII) THEORY EXAMINATION, 2014-15
PETROCHEMICAL TECHNOLOGY

Time : 3 Hours]

[Total Marks : 100

Note: Attempt all questions. All questions carry equal marks.**1** Attempt any four parts of the following: **5×4=20**

- (a) Discuss the production and consumption pattern of petrochemicals in India.
- (b) Discuss the feedstock's of petrochemical industries in India.
- (c) Write the composition and application of Naphthas.
- (d) Explain the importance of hydroforming of petroleum stocks.
- (e) Write short notes on refinery off-gasses.
- (f) Write the industrial application of Petroleum coke.

- 2** Attempt any **Two** parts of the following: **10×2=20**
- (a) Discuss Fischer- Troposch technology for syngas. With the help of flow diagram discuss steam reforming process for syngas.
 - (b) Draw the various routes for the manufacture of adipic acid. With neat flow sheet discuss any one.
 - (c) What are chloromethanes? Discuss the chemistry of manufacture of chloromethanes and trichloroethylene.
- 3** Attempt any **Two** parts of the following **10×2=20**
- (a) Discuss the manufacture process of acetylene via steam cracking of hydrocarbons with flow diagram and operating variables affecting the performance of steam cracker.
 - (b) Explain the major engineering problems involved in the manufacturing of Vinyl chloride monomer with its applications.
 - (c) Discuss the manufacture process of ethylene glycol with the help of flow sheet. Also mention the chemical reactions involved.
- 4** Attempt any **Two** parts of the following: **10×2=20**
- (a) Explain the process of manufacture of isopropyl alcohol by direct hydration of propylene with flow diagram and chemical reaction involved
 - (b) Discuss the manufacture process of butadien with the help of flow sheet. Also mention the chemical reactions involved.
 - (c) Describe the process of manufacture of 2-ethyl hexanol with diagram and chemical reaction involved.

5 Attempt any Two parts of the following: **10×2=20**

- (a) Describe manufacturing process for Caprolactam via dehydrogenation of cyclohexanone along with major engineering problems.
 - (b) Discuss the manufacture process of p-xylene from catalytic reforming with neat flow diagram. Also discuss the factor affecting the process.
 - (c) Explain the hydro-dealkylation process for the manufacture of benzene with neat flow sheet and chemical reaction involved.
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