

Total No. of Questions : 12]

SEAT No. :

**P874**

[Total No. of Pages : 2

[4659]-311

**B.E. (Chemical Engineering)  
e-PETROCHEMICAL ENGINEERING  
(2008 Pattern) (Elective-IV) (Sem.-II)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) *Answer 3 questions from Section-I and 3 questions from Section-II.*
- 2) *Answers to the two sections should be written in separate books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Assume suitable data, if necessary.*

**SECTION-I**

- Q1)** a) Write in brief: present growth and future prospectus of petrochemical industry in India. [12]  
b) Define petrochemicals with examples. [6]

OR

- Q2)** a) Write a note classification of petrochemical with examples. [8]  
b) Enlist and explain the basic raw material for petrochemical synthesis and their sources. [10]

- Q3)** Explain one method for production of aromatics. Also explain BTX separation and purification with schematic diagram. [16]

OR

- Q4)** Explain olefin manufacture with neat flow sheet and operating parameters. [16]

- Q5)** a) What is cracking? What are the different types of cracking? [8]  
b) What are the effects of operating variables on thermal cracking? [8]

OR

- Q6)** Describe the process for production of low molecular weight olefins by hydrocarbon cracking. Draw necessary diagram. [16]

*P.T.O.*

## SECTION-II

- Q7)** a) What are the different available processes for glycol manufacture? Explain ethylene glycol manufacture. [10]  
b) With neat diagram describe about the production of maleic anhydride from benzene? [8]

OR

**Q8)** With suitable diagrams, explain the production of amines. [18]

**Q9)** What are various polymeric products? Describe any two bulk polymerization products along with manufacturing process. [16]

OR

- Q10)**a) Explain types of polymerization process with suitable industrial examples. [8]  
b) With neat sketches explain in details about production of PVC. [8]

**Q11)** Discuss various pollution control equipments for petrochemical plant. Explain any two of equipments in detail with construction and working. [16]

OR

**Q12)** Write a note on: [16]

- a) Safety consideration in petrochemical plants.
- b) Recent advances in petrochemical plant & refineries in India.
- c) Explain methodology for integration of refinery and petrochemical power plant for power generation.

