



PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the various recovery techniques in a petroleum processing plant. (8)  
(ii) Describe in detail the method for processing wet gases. (8)

Or

- (b) (i) Give the P and I diagram of a gas separation process in a petroleum refinery and explain in detail. (8)  
(ii) Explain in detail the seismic method used to discover petroleum mines. (8)

12. (a) (i) List the various low molecular weight products produced after cracking. (6)  
(ii) Explain the fluidized bed catalytic cracking method with a neat sketch. (10)

Or

- (b) (i) With the help of a neat P and I diagram describe how acetylene is separated from petroleum. (8)  
(ii) Discuss in detail the preparation of ethylene from liquid hydrocarbon. (8)

13. (a) (i) Give a brief account on the physical and chemical properties of propylene. (8)  
(ii) What is meant by suspension polymerization and emulsion polymerization? Give a comparison of both. (8)

Or

- (b) (i) List the various propylene derivatives – Explain. (8)  
(ii) Explain the process control system in an methane production plant. (8)

14. (a) (i) With the help of neat sketch explain the lead compensation in a temperature sensor placed in a process environment. (8)  
(ii) Discuss the common methods for density measurement in petroleum evaporator station. (8)

Or

- (b) (i) Explain in detail the various Alarms and Annunciators circuits used in a refinery. (8)  
(ii) How is boiler feed rate measured in a refinery? Name the various flow measuring instruments on a petroleum industry. (8)

15. (a) (i) Explain in detail, process control system for a pyrolysis unit with the help of a P and I Diagram. (8)
- (ii) Explain the basic principle behind the stripping and enriching sections of distillation column. List the various products obtained using distillation. (8)

Or

- (b) (i) Name any three polymers and describe the structure of nylon with a neat sketch. (8)
- (ii) Write short notes on the control involved in the production of polyethylene. (8)