

B.TECH SEM – VIII (2007 COURSE) (CHEMICAL ENGG.) :
WINTER - 2017

SUBJECT : PLANT DESIGN PROJECT ENGINEERING & COSTING

Day : **Monday**
Date : **20/11/2017**

Time : **02.30 PM TO 05.30 PM**
Max. Marks : **80**

W-2017-2641

N.B.:

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of the remaining questions attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.
- 4) Assume suitable data if necessary.

SECTION – I

- Q.1** a) Discuss the factors to be considered for estimation of working capital of chemical process plant. [07]
- b) Describe the significance of market survey. [04]
- c) What is 6/10 factor rule and give its applications. [03]
- Q.2** a) What are the reasons for project delay? What will be its effects on the cost of project? [07]
- b) Which are the factors on which minimum economic plant capacity of plant is decided? [06]
- Q.3** a) Explain various methods for determination of depreciation. [07]
- b) Draw the cash-flow diagram and explain in detail. [06]
- Q.4** Write short notes on the following: [13]
- a) Financial ratios
 - b) Break even analysis
 - c) Capital investment

SECTION – II

- Q.5** a) Describe different steps involved in techno-economic feasibility evaluation of a chemical plant. [06]
- b) What are the different steps involved in the preparation of engineering flow diagram? [06]
- c) State the difference between flow sheet and P & I diagram. [02]
- Q.6** What are the different factors that are considered in selection of plant site? [13]
- Q.7** a) Which are the different utilities used in a chemical process plant? [07]
- b) Give the significance of CPM and PERT with a suitable example. [06]
- Q.8** Write short notes on the following: [13]
- a) Provisions under Factory Act, 1948
 - b) Petroleum rules
 - c) Boiler inspection