

Total No. of Questions : 12]

SEAT No. :

P783

[Total No. of Pages : 3

[4659] - 140

B.E. (Production) (Semester - I)
PLANT ENGINEERING AND MAINTENANCE
(2008 Pattern) (Elective - II (d))

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answer any three questions from Section - I and any three questions from Section - II.*
- 2) *Answers to the two sections should be written in separate answer books.*
- 3) *Use of calculator is allowed.*
- 4) *Figures to the right indicate full marks.*
- 5) *Answer one question from 1 & 2, 3 & 4, 5 & 6, 7 & 8, 9 & 10, 11 & 12.*

SECTION - I

- Q1)** a) Explain the scope and importance of plant engineering and principles of plant management functions. [8]
b) Explain classification of maintenance along with suitable example. [8]

OR

- Q2)** a) Explain the term productivity and its measurement techniques. [10]
b) Explain how Pareto chart technique is useful in problem solving procedure. [6]

- Q3)** a) List out different types of layouts with suitable example. [8]
b) Explain Muther's plant layout procedure in detail. [8]

OR

- Q4)** Write a short note on following : [16]
a) Group Technology
b) Types of building structure
c) Planning and estimation of auxiliary services
d) Selection of layouts

P.T.O.

- Q5)** a) Explain various types of maintenance with suitable example. [10]
b) Explain maintenance problems in product and process industry with suitable example. [8]

OR

- Q6)** Explain the following in detail : [18]
a) Spare Parts Management
b) Importance of preventative maintenance with suitable example.

SECTION - II

- Q7)** a) Explain periodic preventive maintenance management. [8]
b) What is mean by life cycle cost. Explain with reference to bath tub curve. [8]

OR

- Q8)** a) Explain :
i) Constant hazard rate [4]
ii) Linearly increasing hazard rate [4]
b) State any mathematical model for life cycle costing. Explain the significance of terms used in the model. [8]

- Q9)** In view with Plant safety explain planning for safety for the following factors : [16]
a) Mechanical and Chemical hazards
b) Sewage and water Disposal
c) Noise Safety Codes
d) Fire protection

OR

- Q10)** a) Explain different types of material handling equipments with suitable example. [8]
b) Write a short note on following : [8]
i) Recycling of waste
ii) Pollution control waste disposal

- Q11)** a) Draw and Explain Organization structure of Maintenance Department.
Also Explain merits and demerits of total proactive maintenance. [10]
- b) Explain inherent availability and operational availability. [8]

OR

- Q12)** a) Explain the different steps involved in Total Productive Maintenance.[6]
- b) Write a short note on : [12]
- i) Condition based maintenance
 - ii) Overall effectiveness of equipment

