

Total No. of Questions : 12]

SEAT No. :

P3057

[Total No. of Pages : 3

[5354] - 546

B.E. (Mechanical)

INDUSTRIAL ENGINEERING (Elective - III)

(2012 Pattern) (End-Semester)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to candidates:

- 1) Answer any six questions with Internal choice.*
- 2) Answers should be written in one books.*
- 3) Neat diagrams must be drawn wherever necessary.*
- 4) Use of logarithmic tables slide rule, mollier charts, electronic pocket, calculator and steam tables is allowed.*
- 5) Assume suitable data, if necessary.*

Q1) Define productivity and explain different Productivity measures. **[6]**

OR

Q2) Explain contribution of Taylor and Gilbreth to Industrial Engineering **[6]**

Q3) Explain objective and scope of work-study, Also explain Human factors in work-study. **[7]**

OR

Q4) Describe concept two handed chart **[7]**

Q5) Write short notes on : (Any One) **[7]**

- a) MTM
- b) PMTS

P.T.O.

OR

Q6) What is allowance? Explain any two types of allowance. [7]

Q7) a) Estimate the sales forecast for the year 2000, using exponential smoothing forecaster. Take $\alpha=0.5$ and the forecast for the year 1995 as 160×10^5 units. Compare the forecast with least square method [10]

Year	1995	1996	1997	1998	1999
Sales Rs. ($\times 10^5$)	180	168	159	170	188

b) Explain ABC analysis and VED analysis. [6]

OR

Q8) a) Write short note on MRP and MRP-II [8]

b) What is demand forecasting ? Explain Moving Average Method for Demand forecasting. [8]

Q9) a) Write short note on [9]

i) Functional Layout

ii) Line Layout

iii) Travel Chart

b) State Material Handling Principles and Explain types of material handling Devices. [8]

OR

Q10) a) Define plant location and plant layout. What are various factors involved in selection of site for good plant. [9]

b) Write short note on [8]

i) Material flow patterns

ii) Line balancing

Q11)a) Write short note on Techniques for Evaluation of capital Investments [8]

b) An analysis of the company reveals the following information

Cost Element	Variable Cost	Fixed cost
Direct Material	32.8	-
Direct Labour	28.4	-
Factory Overheads	12.6	189900
Distribution Overheads	4.1	58400
General Administrative Overheads	1.1	66700
Budgeted sales are		1850000

Determine:

- P/V ratio
- B.E.P
- The profit at the budgeted sales volume. [9]

OR

Q12)a) Explain Industrial Safety programme, and General Safety Rules [8]

b) ABC company plans to sell an article at a local market. The articles are purchased at Rs.5 on the condition that all unsold articles shall be returned. The rent for the space is Rs.2000. The articles will be sold at Rs.9.

Determine the number of articles which must be sold-

- To break even
- To earn Rs.400 as profit
- If the company sells 700 articles. Calculate margin of safety and profit. [9]

