

Industrial Engineering (ME.307E)**Time: Three Hours****Maximum Marks: 100**

Note: - Attempt any FIVE questions.

- 1 (a) Trace out the evolution of factory system in its modern form. (10)
(b) Describe different principles of plant layout. (10)

2. The sale of a product during last five years is tabulated below calculate:

- (i). The sale in the year 2003 and 2004.
(ii) Coefficient of correlation
(iii). Standard error of estimate and give its significance.
Assume a linear forecaster. (20)

Year	1998	1999	2000	2001	2002
Sale	40	80	60	100	140

3. Explain factors affecting inventory levels.

(a). Define and describe in brief:

- (i). mean
(ii). median
(iii) Mode
(iv). Range (10)
(v). Standard deviation

(b). Describe control charts for variable. (10)

5. Explain types of production in detail. (20)

6. (a). Explain in brief various methods of allocating overhead expenses. (10)

(b). The fixed costs for the year 2002-03 are Rs. 80,000. The estimated sales for the period are valued at Rs. 2,00,000. The variable cost per unit for the single product made is Rs. 4. If each unit sells at Rs. 20, and the number of units involved coincides with the expected volume of output, construct the breakeven chart. Determine breakeven point above how much units, the company should produce in order to seek profit. (10)

7. (a). Define

(i). Forward and backward pass

(ii). Slack

(iii). Float (6)

(b). Differentiate CPM and PERT. (6)

(c) An old car was purchased for Rs. 80,000. Its life was estimated as ten years and the scrap value as Rs. 30,000. Using the reducing balances method, calculate the % depreciation rate. Estimate the depreciation fund at the end of two years. (8)

8. Write short notes on any THREE of the following: (20)

- (a). Fixed position layout
(b). OC Curve
(c). Scheduling
(d). AOQ