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BME-013

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

Term-End Examination

00562 **December, 2017**

BME-013 : PRODUCTION MANAGEMENT

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **five** questions. Use of scientific calculator is allowed.*

1. (a) What are the elements of production strategy ? Explain them in brief. *7*

(b) What are the methods of estimating future demands ? Briefly explain any one quantitative method. *7*

2. (a) List the various factors affecting the site selection for a power plant. *4*

(b) Discuss various types of horizontal and vertical arrangements of facilities layout. *6*

(c) List the advantages and disadvantages of process layout. *4*

3. (a) What do you mean by break-even analysis ? List the steps involved in break-even analysis. *6*

(b) A firm has a fixed cost of ₹ 4,00,000 over a period of time. The variable costs include manufacturing cost of ₹ 300 per unit and shipping cost of ₹ 50. If the selling price of the product is ₹ 550 per unit, find the break-even point in rupees and units. *8*

4. (a) Define CPM. Explain the steps involved in scheduling a project. *10*

(b) Define PERT and give a few applications. *4*

5. (a) Differentiate between long term and short term forecast. *4*

(b) A company producing refrigerators related its sale in the past with the number of distributors as follows :

No. of Distributors	10	12	7	18	16	5	22
Sale of Refrigerators	60	68	44	98	90	34	120

(i) Derive a regression forecasting equation.

(ii) Estimate the sale of refrigerators when the number of distributors are 14.

(iii) Calculate the standard deviation of regression and the correlation coefficient. *10*

6. (a) What do you mean by MRP ? Briefly explain the objectives of MRP. 7

(b) Define Bill of Materials. Explain the different levels in the structure of bill of materials. 4

(c) List the features of ERP. 3

7. (a) Explain the factors involved in the successful implementation of MRP. 5

(b) Explain Synchronous Manufacturing. How is the theory of constraint related to it ? 5

(c) With the help of a suitable diagram, show the effect of constraints on the throughput. 4