| BME-013 |

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

Term-End Examination

☐☐5☐3   December, 2016

BME-013 : PRODUCTION MANAGEMENT

Time : 3 hours   *Maximum Marks : 70*

*Note : Attempt any **ten** questions. Use of scientific calculator is allowed. Assume any missing data suitably.*

1. What are the types of layout ? Discuss the merits and demerits of process layout and product layout.   7

2. A concern is manufacturing a product which is sold for ₹ 10·50 per unit and the fixed cost of the assets is ₹ 50,000 with a variable cost of ₹ 6·50 per unit. How many units should be produced to break even ? How many units must be produced to earn a profit of ₹ 10,000 ?   7

3. Why is forecasting important for an operations manager ? Explain the time series forecasting methods.   7

4. What is the difference between chase strategy and level production strategy ? Explain with examples.   7

5. What is the purpose of Material Requirement Planning (MRP) ? Describe the process adopted in MRP.   7

6. Differentiate between Programme Evaluation Review Technique (PERT) and Critical Path Method (CPM).   7

7. Discuss the importance of inbound and outbound logistics in a supply chain with the help of suitable examples.   7

8. Explain the bullwhip effect in SCM. What are the different causes of bullwhip effect ? Explain.   7

9. A stockist has to supply 400 units of a product every Monday to his customers. He gets the product at ₹ 50 per unit from the manufacturer. The cost of ordering and transportation from the manufacturer is ₹ 75 per order. The cost of carrying inventory is 7·5% per year of the cost of the product. Find

   (a) the economic lot size,

   (b) the total optimal cost (including the capital cost), and

   (c) the total weekly profit, if the item is sold for ₹ 55 per unit.   7

10. Explain the importance of a sequencing problem. Briefly explain various methods of solving sequencing problems. **7**

11. What is the philosophy of Just-In-Time ? What are the prerequisites for implementation of JIT (Just-In-Time) ? **7**

12. Write short notes on any *two* of the following topics : $2 \times 3\frac{1}{2} = 7$

(a) Balanced Scorecard

(b) Work Sampling

(c) Control Charts