No. of Printed Pages : 3

BME-013

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

00648 **Term-End Examination**

June, 2016

BME-013 : PRODUCTION MANAGEMENT

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any **five** questions. All questions carry equal marks. Use of scientific calculator is allowed.*

1. Explain the concepts in Break-Even-Analysis with examples. Discuss the assumptions involved.

   Potential locations A, B and C have the cost structures shown below for manufacturing a product expected to sell for ₹ 2,700 per unit. Find the most economical location for an expected volume of 2000 units per year. *14*

Site	Fixed cost/year (₹)	Variable cost/unit (₹)
A	60,00,000	1,500
B	70,00,000	500
C	50,00,000	4,000

2. What are the assumptions underlying the time series methods of forecasting ? What are the limitations in using such methods for forecasting ? *14*

3. What does bill of materials structure mean ? Give an example. Write the basic input for MRP. Discuss the similarities and differences between MRP and JIT (Just-in-Time). *14*

4. What do you understand by Inventory control ? Explain the purpose of maintaining inventory in any production unit. The demand of bearing produced by a company is uniform at 25 units per day. It is estimated that each time a production is set, the company incurs ₹ 60 as fixed cost. Production cost is ₹ 4 and carrying cost is ₹ 1 per unit per day. If the shortage cost is ₹ 6 per bearing per day, find the frequency of production run and the optimal production size. *14*

5. Explain the concepts involved in TOC with the help of suitable example. What are the different steps involved in TOC ? Give the flow chart using these steps. *14*

6. Draw a network diagram from the following activities and find the critical path and total slack of activities : *14*

Job	Job (days) Time	Immediate Predecessor
A	13	—
B	8	A
C	10	B
D	9	C
E	11	B
F	10	E
G	8	D, F
H	6	E
I	7	H
J	14	G, I
K	18	J

7. Write short notes on any ***two*** of the following : *14*

(a) Enterprise Resource Planning (ERP)

(b) Aggregate Production Planning

(c) Scheduling

(d) Measurement in Production System