

**B.Tech. – VIEP – MECHANICAL ENGINEERING
(BTMEVI)**

Term-End Examination

December, 2015

**BIMEE-012 : PRODUCTION AND OPERATIONS
MANAGEMENT**

Time : 3 hours

Maximum Marks : 70

Note : Attempt any *five* questions. All questions carry equal marks. Use of calculator is permitted.

1. (a) What do you understand by production and productivity ? Explain with suitable examples. 7
- (b) Define 'production system'. Why is it necessary to view production/operation as a system ? Discuss. 7

2. (a) What is meant by aggregate planning ? List and explain the various pure strategies and mixed strategies. 7
- (b) What are the basic inputs for MRP ? Discuss the similarities and differences between the traditional MRP and MRP II. 7

3. The precedence relationship for nine activities is given in Table-1.

Table-1

Activity	A	B	C	D	E	F	G	H	I
Duration (Days)	9	9	10	4	7	3	8	7	2
Precedence	-	-	-	A	B	C	D,E,F	C	G,H

Draw the network diagram. Find the critical path, total completion time and floats.

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4. There are five jobs in waiting for getting processed on a machine. Their sequence of arrival, processing time, and due-date are given in Table-2.

Schedule the jobs using FCFS, SPT, LCFS, and STR rules. Compare and discuss the results.

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Table-2

Jobs (in sequence of Arrival)	Processing Time (Days)	Due Date (i.e days from now)
J_1	4	6
J_2	5	7
J_3	3	8
J_4	7	10
J_5	2	3

5. (a) Describe the concept of world class manufacturing, with the help of a suitable example. 7
- (b) What is Job design ? Explain the method of a job design, with the help of a suitable example. 7
6. (a) Discuss the factors governing plant location for a textile company. 7
- (b) What is performance rating ? What are the different rating techniques ? Explain any one of them briefly. 7
7. (a) Define capacity planning. Describe the procedure involved in capacity planning. 7
- (b) How is quality defined ? Differentiate between Quality control and Quality assurance. 7
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