

**B.Tech. – VIEP – MECHANICAL ENGINEERING
(BTMEVI)****Term-End Examination****December, 2016****BIMEE-012 : PRODUCTION AND OPERATIONS
MANAGEMENT***Time : 3 hours**Maximum Marks : 70*

Note : Attempt any five questions. All questions carry equal marks. Use of non-programmable scientific calculator is permitted.

1. (a) Define Production Management. Discuss the functions of the production manager of a modern factory.
- (b) Differentiate between job production, batch production and continuous production. 7+7
2. The precedence relationship for nine activities is given in Table 1. Draw the network diagram. Find the critical path and calculate different floats/slacks. 14

Table 1

Activity	A	B	C	D	E	F	G	H	I
Duration in Days	9	9	10	4	7	3	8	7	8
Precedence	–	–	–	A	B	C	D, E, F	C	G, H

3. (a) Discuss the factors affecting the "Product Design".

(b) Explain the principles involved in designing the plant layout. Describe any one plant layout with the help of neat sketches.

7+7

4. (a) What is meant by Capacity Planning ? Distinguish between design capacity and system capacity.

(b) Explain MRP and MRP-II with the help of suitable examples.

7+7

5. There are five jobs each to be assigned to five machines. The associated cost matrix is given in Table 2 :

Table 2
Machines

		I	II	III	IV	V
Jobs	A	11	17	8	16	20
	B	9	7	12	6	15
	C	13	16	15	12	16
	D	21	24	17	28	26
	E	14	10	12	11	15

Find the optimum assignment and the associated cost using the suitable assignment technique.

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6. (a) How is quality defined ? Differentiate between quality control and quality assurance.
- (b) What are the factors considered in plant location decision ? Explain the use of break-even analysis in plant location decision-making process. 7+7
7. (a) What are the various types of wage incentive plans for Direct Workers ? Explain straight piece rate system.
- (b) Brief about "Toyota Production System". Discuss its advantages over other production systems. 7+7
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