

MMCM - 203

M.E./M.Tech., II Semester

Examination, June 2014

Operation Management

Time : Three Hours

Maximum Marks : 70

Note : i) Attempt any five questions. All questions carry equal marks.

ii) Different parts of the same question should be attempted in continuation.

1. a) Explain the term, 'Operations Management'. What do you understand by Systems view of Operation Management?
b) What are the different operations strategies available to the manager? Explain each of them and quote suitable examples to show their applicability.
2. a) Explain why plant location decisions are important to an organisation? What are the factors that influence the selection of location of a plant?
b) Define plant layout. What are the objectives of a good plant layout? What are the various types of layout? Compare product layout and process layout.
3. What different factors affect the make or buy decisions?
A company has to take a decision regarding whether to make or buy a component, which is presently being purchased at Rs. 7.00 each. The demand estimates are given below:

Demand 20,000 30,000 40,000 50,000 60,000
(Units)

Chance (%) 10 30 40 15 05

The decision to manufacture in-house costs the company an annual fixed cost of Rs. 80,000 and variable costs are estimated at Rs. 5 per unit.

Give your decision to make or buy. At what quantity it is profitable to produce rather than buy?

4. a) Why do we need aggregate planning? What is the meaning of the term, 'aggregate production planning'? What are its objectives and uses?
- b) What is a master production schedule? How is it different from the aggregate production plan? Explain the steps involved in preparing master production schedule.

5. a) What is priority sequencing? What are priority sequencing rules. Explain the criteria for priority sequencing?

Five jobs are to be processed on a work center of a sheet metal shop. The processing times are given below:

Job	A	B	C	D	E
Processing time (days)	4	17	14	9	11

Determine the sequencing using shortest processing time rule.

- b) What is meant by line balancing? What are its advantages and disadvantages? Explain the steps involved in solving a line-balancing problem.

6. a) What are the different types of maintenance strategies? Explain any three of them.
- b) Why is it necessary to replace machines? Explain any two-replacement policies.
7. a) Define MRP and MRP II. Explain the differences between them.
- b) Describe the characteristics of Just in Time (JIT) production system. State the benefits and demerits of JIT production system.
8. Explain any four from the following:
- Role of production manager
 - Importance of maintenance management
 - Computer Aided Process Planning
 - Total Productive Maintenance
 - Business Process Re-engineering.
