

**Paper 9- OPERATIONS MANAGEMENT &
STRATEGIC MANAGEMENT**

MTP_Intermediate_Syllabus 2016_Dec2023_Set1

Paper 9- OPERATIONS MANAGEMENT & STRATEGIC MANAGEMENT

Full Marks: 100

Time allowed: 3 hours

The figures in the margin on the right side indicate full marks.

This question paper has two sections.

Both the sections are to be answered subject to instructions given against each.

Section – A

1. (a) Choose the correct answer: [1x10=10]

- (i) Generally the size of the order for production in Job production is :
 - a. Small
 - b. Large
 - c. Medium
 - d. Very large

- (ii) The activity of specifying when to start the job and when to end the job is known as:
 - a. Planning
 - b. Scheduling
 - c. Timing
 - d. Follow-up

- (iii) In job production system, we need:
 - a. More unskilled labours
 - b. Skilled labours
 - c. Semi-skilled labours
 - d. Old people

- (iv) The lead-time is the time:
 - a. To place holders for materials
 - b. Time of receiving materials
 - c. Time between receipt of material and using materials,
 - d. Time between placing the order and receiving the materials

- (v) The method used in scheduling a project is:
 - a. A schedule of break-down of orders
 - b. Outline master programme
 - c. PERT & CPM
 - d. Schedule for large and integrated work

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- (vi) The act of going round the production shop to note down the progress of work and feedback the information is known as:
- Follow up
 - Dispatching
 - Routing
 - Trip card
- (vii) MRP stands for:
- Material requirement planning
 - Material reordering planning
 - Material requisition procedure
 - Material recording procedure
- (viii) One of the important charts used in programme control is:
- Material chart
 - Gantt chart
 - Route chart
 - Inspection chart
- (ix) Variety reduction is generally known as:
- Less varieties
 - Simplification
 - Reduced varieties
 - None of the above
- (x) Conversion of inputs into outputs is known as:
- Application of technology
 - operations management
 - Manufacturing products
 - product

(b) Match the products in Column-I with production centres in column –II:

[1x6=6]

| | I | | II |
|-----|-------------|-----|---------------|
| (A) | Electricity | (a) | Blast Furnace |
| (B) | Petrol | (b) | generator |
| (C) | Iron | (c) | Refinery |
| (D) | Cloth | (d) | Assembly line |
| (E) | Car | (e) | spinning Mill |
| (F) | Cotton yarn | (f) | power Loom |

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(c) State whether the following statements are True or False: [1x6=6]

- (i) Method study should precede work measurement
- (ii) Increased productivity leads to cost reduction
- (iii) A good materials handling system always consists of conveyors
- (iv) Project costs increase as the duration of the project increases
- (v) It is desirable to conduct work measurement after method study
- (vi) No handling is the best handling

Answer any three questions from the following: [3x16=48]

2. (a) List the scope of operations management? [8]

(b) What are the characteristics of a good plant layout? [8]

3. (a) What does Product Design do? Discuss — Process design and selection. [6]

(b) A department works on 8 hours shift, 288 days a year and has the usage data of a machine, as given below:

| Product | Annual Demand (units) | Processing time (standard time in hours) |
|---------|--------------------------|---|
| A | 325 | 5.0 |
| B | 450 | 4.0 |
| C | 550 | 6.0 |

Calculate:

- (a) Processing time needed in hours to produce products A, B and C,
- (b) Annual production capacity of one machine in standard hours, and Number of machines required. [10]

4. (a) A captain of a cricket team has to allot five middle batting positions to five batsmen. The average runs scored by each batsman at these positions are as follows:

| | | Batting Position | | | | |
|---------|---|------------------|----|----|----|-----|
| | | III | IV | V | VI | VII |
| Batsmen | A | 40 | 40 | 35 | 25 | 50 |
| | B | 42 | 30 | 16 | 25 | 27 |
| | C | 50 | 48 | 40 | 60 | 50 |
| | D | 20 | 19 | 20 | 18 | 25 |
| | E | 58 | 60 | 59 | 55 | 53 |

Make the assignment so that the expected total average runs scored by these batsmen are maximum. [10]

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- (b) Table shows the time remaining (number of days until due date) and the work remaining (number of day's work) for 5 jobs which were assigned the letters A to E as they arrived to the shop. Sequence these jobs by priority rules viz., (a) FCFS, (b) EDD, (c) LS (d) SPT and (e) LPT. [6]

| Job | Number days until due date | Number of days work remaining |
|-----|----------------------------|-------------------------------|
| A | 8 | 7 |
| B | 3 | 4 |
| C | 7 | 5 |
| D | 9 | 2 |
| E | 6 | 6 |

5. (a) Project with the following data is to be implemented, Draw the network and find the critical path.

| Activity | Predecessor | Duration (days) | Cost (₹ day) |
|----------|-------------|-----------------|--------------|
| A | - | 2 | 50 |
| B | - | 4 | 50 |
| C | A | 1 | 40 |
| D | B | 2 | 100 |
| E | A, B | 3 | 100 |
| F | E | 2 | 60 |

1. What is the minimum duration of the project?
2. Draw a Gantt chart for early start schedule.
3. Determine the peak requirement money and day on which it occurs above schedule. [8]

- (b) A large computer installation contains 2,000 components of identical nature which are subject to failure as per probability distribution that follows:

| | | | | | |
|--------------------|----|----|----|----|-----|
| Month End: | 1 | 2 | 3 | 4 | 5 |
| % Failure to date: | 10 | 25 | 50 | 80 | 100 |

Components which fail have to be replaced for efficient functioning of the system. If they are replaced as and when failures occur, the cost of replacement per unit is ₹3. Alternatively, if all components are replaced in one lot at periodical intervals and individually replace only such failures as occur between group replacement, the cost of component replaced is ₹1.

- (a) Assess which policy of replacement would be economical.
- (b) If group replacement is economical at current costs, then assess at what cost of individual replacement would group replacement be uneconomical.
- (c) How high can the cost per unit in-group replacement be to make a preference for individual replacement policy? [8]

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Section – B

6. Choose the correct answer: [6x1=6]

- (i) A corporate strategy can be defined as:
- (a) A list of actions about operational planning and statement of organization structure and control system;
 - (b) A statement of how to compete, directions of growth and method of assessing environment;
 - (c) Abatement of organization's activities and allocation of resources;
 - (d) A course of action or choice of alternatives, specifying the resources required to achieve certain stated objectives;
- (ii) A strategic business unit (SBU) is defined as a division of an organization:
- (a) That help in the marketing operations;
 - (b) That enable managers to have better control over the resources;
 - (c) The help in the choice of technology;
 - (d) That help in the allocation of scarce resources;
- (iii) Benchmarking is:
- (a) The analytical tool To identify high cost activities based on the 'Pareto Analysis'.
 - (b) The search for industries best practices that lead to superior performance;
 - (c) The simulation of cost reduction schemes that help to build commitment and improvement of actions;
 - (d) The process of marketing and redesigning the way a typical company works;
- (iv) What are enduring statements of purpose that distinguish one business from other similar firms:
- (a) Policies
 - (b) Mission statements
 - (c) Objectives
 - (d) Rules
- (v) Indian Airlines decreasing the airfare on the Delhi – Mumbai sector following the introduction of the no frills airlines would be an example of
- (a) Cost leadership
 - (b) Price leadership
 - (c) Product differentiate
 - (d) Focus

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- (vi) Question mark in BCG Matrix is an investment, which
- (a) Yields low current income but has bright growth prospects
 - (b) Yields high current income and has bright growth prospects
 - (c) Yields high current income and has bleak growth prospects
 - (d) Yields low current income and has bleak growth prospects

Answer any two questions from the following:

[2x12=24]

7. (a) What do you mean by strategy? State its features? [5]

(b) Explain the objective of SWOT analysis and its advantages and criticism? [7]

8. (a) Discuss various stages in strategic planning. [6]

(b) Discuss Mc Kinsey's 7-s framework? [6]

9. Write a short note on any of the following three questions:

[3x4=12]

(a) Formulation of production strategy.

(b) Strategy Implementation

(c) BCG Matrix;

(d) BPR;