

INTERMEDIATE EXAMINATION

June 2018

P-9(OMSM)
Syllabus 2016

Operations Management and Strategic Management

Time Allowed: 3 Hours

Full Marks: 100

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

This paper contains two Sections.

Both Sections are compulsory, subject to instructions provided against each.

All workings must form part of your answer.

Assumptions, if any, must be clearly indicated.

Section A

Operations Management

1. (a) Choose the correct answer:

1×10=10

- (i) The recent trend in the Production/Operations management which suggests the use of minimal amount of resources to produce a high volume of high quality goods with some variety is referred to as:
 - (a) SCM
 - (b) TQM
 - (c) Lean Production
 - (d) Just-In-Time
- (ii) Effective capacity can NOT be determined by which of the following factors?
 - (a) Product design and product-mix
 - (b) Quantity and quality capabilities
 - (c) Facilities
 - (d) None of the above
- (iii) In which of the following stages the management should try to change its approach by changing its strategy from "buy my product" to "try my product"?
 - (a) Introduction
 - (b) Growth
 - (c) Maturity
 - (d) Decline

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- (iv) Conducting occasional check-ups of the products manufactured or assembled to ensure high quality of the production is known as:
 - (a) Planning
 - (b) Scheduling
 - (c) Inspection
 - (d) Routing
- (v) Which one of the following standards is associated with the "Quality Assurance in Final Inspection Test"?
 - (a) ISO 9001
 - (b) ISO 9002
 - (c) ISO 9003
 - (d) ISO 9004
- (vi) With reference to project management, identify which of the following statement is NOT correct?
 - (a) Gantt chart is a principal tool used in scheduling and also in some methods of loading.
 - (b) Routing is the first step in the production planning.
 - (c) The cost of any activity is proportional to its time of completion.
 - (d) The free float can be calculated by subtracting EFT from EST.
- (vii) Identify which one of the following statement is NOT correct?
 - (a) Preventing maintenance includes lubrication, cleaning, periodic overhaul, etc.
 - (b) The two types of cost—cost of premature replacement and cost of breakdown—need to be balanced.
 - (c) Wear and obsolescence are the two main causes of replacement of machinery in every aspect of life.
 - (d) A machine is technically obsolete when another machine can do the same job more efficiently with reduced time and also at a lower cost.
- (viii) To determine where the plant should be located for maximum operating economy and effectiveness, refers to which one of the following?
 - (a) Plant layout
 - (b) Facility location
 - (c) Capacity planning
 - (d) Capacity requirement

- (ix) Which of the following models deals with the physical movement of goods from different supply origins to a number of different demand destinations?
- Simulation
 - Transportation
 - Lean operations
 - Line balancing
- (x) One of the objectives of maintenance is:
- to prevent obsolescence.
 - to ensure spare parts management.
 - to satisfy customers.
 - to extend the useful life of Plant & Machinery without sacrificing the level of performance.

(b) Match Column A with Column B:

1×6=6

Column A	Column B
(A) The ability to adapt quickly to changes in volume of demand, in the product mix demanded and in product design or in delivery schedules	(i) Method Study
(B) To address the planning and controlling of a manufacturing process and all of its related support functions	(ii) Maintenance Stores
(C) Degree to which the system can be adjusted to changes in processing requirements	(iii) Flexibility
(D) Eliminating unnecessary motions or by changing the sequence of operation or the process itself	(iv) Network Analysis
(E) Certain specific techniques which can be used for planning, management and control of project	(v) MRP-II
(F) Availability of vital spare parts needs to be ascertained to meet an emergency like breakdown	(vi) Process Flexibility

(c) State whether the following statements are 'True' or 'False':

1×6=6

- The primary concern of production planning and control is the delivery of products to customers or to inventory stocks according to some predetermined schedule.
- Capacity refers to the minimum load an operating unit can handle.

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- (iii) Job-shop process is used when a very highly standardized product is desired in high volumes.
- (iv) The productivity is a measure of how much input is required to achieve a given output.
- (v) One of the limitations of Gantt Chart is that it does not clearly indicate the details regarding progress of activities.
- (vi) Preventive maintenance ensures greater safety to workers.

Answer *any three* questions from the following:

16×3=48

2. (a) Categorise the objectives of operations management and discuss about each category. 2+4=6
- (b) The monthly requirement of raw material for a company is 3200 units. The carrying cost is estimated to be 25% of the purchase price per unit, in addition to ₹ 2.5 per unit. The purchase price of raw material is ₹ 24 per unit.
The ordering cost is ₹ 28 per order.
 - (i) You are required to find EOQ and Total cost.
 - (ii) What is the total cost when the company gets a concession of 6% on the purchase price if it orders 3200 units or more but less than 6200 units per month?
 - (iii) What happens when the company gets a concession of 15% on the purchase price when it orders 6,200 units or more?
 - (iv) Which of the above three ways of orders the company should adopt? 4+2+2+2=10
3. (a) "Virtually all goods or services are made by using some variation of one of three process Strategies". Discuss about each of the three process strategies. Also state the situation during the decline stage of a product life cycle. (2×3)+2=8
- (b) Discuss the principles of scheduling. Explain briefly the relationship between routing and scheduling. 6+2=8
4. (a) A blacksmith supervisor in his workshop is considering how he should assign the four jobs that are to be performed, to four of the workers under him. He wants to assign the jobs to the workers such that the aggregate time to perform the jobs is the least. Based on previous experience, he has the information on the time taken by the four workers in performing these jobs and the same is given in the table below:

Time Taken (in minutes) by 4 Workers

Worker	Job			
	A	B	C	D
1	46	40	51	68
2	57	42	63	55
3	49	53	48	64
4	41	45	61	55

Solve the assignment problem for optimal solution using Hungarian Method.

- (b) At a tool service centre, the arrival rate is 3 per hour and the service potentials 4 per hour. Simple queue conditions exist. The hourly wage paid to the attendant at the service centre is ₹ 2 per hour and the hourly cost of a machinist away from his work is ₹ 5.

Calculate:

2×4=8

- The average number of machinists being served or waiting to be served at any given time.
- The average time a machinist spends waiting for service.
- The total cost of operating the system for an eight-hour day.
- The cost of the system if there were two attendants working together as a team, each paid ₹ 2 per hour and each able to service on average 3 per hour.

5. (a) The following jobs have to be shipped a week from now (week has 5 working days)

Job	A	B	C	D	E	F
Number of day's work remaining	4	5	8	7	6	3

Sequence the jobs according to priority established by:

4×2=8

- Least slack rule
 - Critical ratio rule
- (b) A cab operations company is experiencing the following number of breakdowns for months over the past 2 years in their new fleet of cabs:

Number of breakdowns	0	1	2	3	4
Number of months this occurred	3	7	9	4	1

Each breakdown costs the firm an average of ₹ 2,500. For a cost of ₹ 1,600 per month, preventive maintenance can be carried out to limit the breakdowns to an average of one per month. Which policy is suitable for the firm?

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Section B Strategic Management

6. Choose the correct answer:

1×6=6

- Which one of the following does NOT seem to be an advantage of the strategic management?
 - Discharges board responsibility
 - Provides a framework for decision-making
 - Forces an objective assessment
 - It can be expensive

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- (ii) Which of the following analyses 'products and businesses by market share and market growth'?
- (a) SWOT Analysis
 - (b) BCG Matrix
 - (c) PEST Analysis
 - (d) Portfolio Analysis
- (iii) Which one of the following is NOT part of the McKinsey's 7-S framework?
- (a) Skills
 - (b) Staff
 - (c) Systems
 - (d) Supervision
- (iv) Which one of the following statement is NOT correct?
- (a) Vision is the statement of the future.
 - (b) The corporate mission is the purpose or reason for its existence.
 - (c) Targets are formed from vision and mission statement of organizations.
 - (d) Goals are objectives that are scheduled for attainment during planned period.
- (v) Which of the following can NOT be called as a strength of an organization?
- (a) Good Industrial relations
 - (b) Incentives from State Government
 - (c) Financially very sound
 - (d) Raw materials source at a distance
- (vi) Strategic Business Unit (SBU) structure does NOT experience one of the following as an advantage:
- (a) Higher career development opportunities
 - (b) Better control of categories of products manufacturing, marketing and distributions
 - (c) High cost approach
 - (d) Help in expanding in different related and unrelated businesses

Answer *any two* questions from the following:

12×2=24

7. (a) Identify basic elements of strategic vision and discuss about the important purposes served by such strategic vision. 1½+2½=4
- (b) Discuss in brief about the areas of attention for SWOT appraisal. State the purpose of such appraisal. 6+2=8

8. (a) State the different approaches in Strategic Planning. 4
(b) Categorise major reasons of SBU approach. 8
9. Write short notes on *any three* of the following: 4×3=12
- (a) Marketing Plan and Strategy
 - (b) Geographic and Matrix structure for implementation of organisational strategy
 - (c) Types of firms/organisations for which BPR can be applied
 - (d) Difference between strategic management and strategic planning
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