

**Paper - 9 : Operations Management and Strategic Management**

**Paper – 9: Operations Management and 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: Operations Management**

**PART – I**

Answer Question Number 1. All parts of this question are compulsory.

1. (a) Choose the correct alternatives: 1×10=10

(i) \_\_\_\_\_ is not a factor in determining Economic lot size for manufacturing.

- (a) Production Schedule
- (b) Usage rate
- (c) Manufacturing Cost
- (d) Cost of Deterioration

(ii) What is the significance of negative float?

- (a) Reduction in target time to finish the work in time
- (b) Adjustment of target time to finish the work before schedule
- (c) Reduction in target time to crash the critical path
- (d) Adjustment of target time to maintain the most likely time of activities

(iii) ISO 9003 is applicable in area of \_\_\_\_\_.

- (a) Procurement
- (b) Production
- (c) Installation
- (d) Servicing

(iv) What is request step needed to reap the benefits of TQM

- (a) Quality of production of organisation must change
- (b) Productivity of organisation must change
- (c) Culture of organisation must change
- (d) Environment of organisation must change

(v) Why should by machines are kept?

- (a) Requirement of Additional space
- (b) Interest on additional capital
- (c) Availability of Additional depreciation
- (d) Protection against a complete shutdown

(vi) Scheduling is not depending upon ?

- (a) Production Method
- (b) Production Quantity
- (c) Production Capacity
- (d) Production Site

- (vii) What is Quality of conformance?
- (a) The degree to which quality of design is achieved in manufacturing
  - (b) The degree to which quality of product is achieved through customer's preferences
  - (c) The degree to which quality of human resources is achieved through training
  - (d) The degree to which quality of assets is achieved through technological innovation
- (viii) If, a public sector industry wanted to start its operation in a remote place, which of the following is require ?
- (a) Industry follows transportation
  - (b) Industry & transportation come in together
  - (c) Transportation follows industry
  - (d) Transportation increases mobility of industry
- (ix) Machine time of a machine is 22 minutes. If productivity increases by 10% the new machine time is
- (a) 19.8
  - (b) 12
  - (c) 5
  - (d) 20
- (x) Administrative Application of Linear Programming includes.
- (a) Application for forming financial mix strategy
  - (b) Application for scheduling production
  - (c) Application for finding optimal usage of resources
  - (d) Application for portfolio selection

(b) Match items in column A with that in column B:

1×6=6

Column A	Column B
(a) Horizontal line of the Gantt chart	(i) Are where more than one Activity ends and from where more than one Activity starts
(b) Dummy Activities	(ii) Represent the difference between the maximum time available to finish the activity and the time required to complete it.
(c) Merger and Burst Events	(iii) Consume no time or resource & are represented by dashed arrows
(d) Floats	(iv) Fraction from total float of an activity which can be used for rescheduling the activity without affecting the succeeding activity.
(e) Free Float	(v) Solution to Transportation problem
(f) Vogel's Approximation Method	(vi) Represents the time taken to complete an activity

(c) State whether the following statements are True/False.

1×6=6

- (i) The best handling, is no handling.
- (ii) Cost reduction can be achieved through increasing productivity
- (iii) Absolute job worth each a tool to Job evaluation.
- (iv) Lay out problems can be solved through multiple activity chart.
- (v) Training helps to increase employee morale.
- (vi) Production planning is needed for proper functioning.

PART – II

Answer any three questions from question numbers 2 to 5. Each question carries 16 marks

(3×16=48)

2. (a) Define MRP. Explain the objectives of MRP.  
 (b) M/s KB Ltd., is committed to supply 24,000 bearings per annum to M/s DF on a steady daily basis. It is estimated that it costs 10 paise as inventory holding cost per bearing per month and that the setup cost per run of bearing manufacture is ₹ 324.  
 (i) What is the optimum run size for bearing manufacture?  
 (ii) What should be the interval between the consecutive optimum runs?  
 (iii) Find out the minimum inventory holding cost.

6+10=16

3. (a) What are the main activities of products design must include?  
 (b) When the processing time (+1) in Hrs for five jobs of a single machine scheduling is given.

Determine the sequence which will minimize the weighted mean flow time and also find the mean flow time

Job (j)	1	2	3	4	5
Processing time (t <sub>i</sub> ) hrs	30	8	10	28	16
Weight (w <sub>j</sub> )	1	2	1	2	3

4+12=16

4. (a) What are the linear Programming tools that are used in Management Application?  
 (b) Ladies fashion shop wishes to purchase the following quantity of summer dresses:

Dress size	I	II	III	IV
Quantity	100	200	450	150

Three manufacturers are willing to supply dresses.

The quantities given below are the maximum that they are able to supply of any given combination of orders for dresses:

Manufacturers	X	Y	Z
Total quantity	150	450	250

The shop expects the profit per dress to vary with the manufacturer as given below:

Size

	I	II	III	IV
X	₹2.5	₹4.0	₹5.0	₹2.0
Y	₹3.0	₹3.5	₹5.5	₹1.5
Z	₹2.0	₹4.5	₹4.5	₹2.5

Required:

- (a) Using the transportation technique solve the problem of how the orders should be placed with the manufacturers by the fashion shop to maximise profit.  
 (b) Whether there is any further improvement can be achieved?

6+10=16

5. (a) Product A has a Mean Time Between Failures (MTBF) of 30 hours and has a Mean Time To Repairs (MTTR) of 5 hours. Product B has a MTBF of 40 hours and has a MTTR of 2 hours.
- Which product has the higher reliability?
  - Which product has greater maintainability?
  - Which product has greater availability?

- (b) The following activities must be accomplished in order to complete a construction project:

Activity	A	B	C	D	E	F	G	H	I	J
Time	3	8	4	2	1	7	5	6	8	9
Predecessors	—	—	AB	B	A	C	EF	DF	GH	I

- Construct a network diagram for this project. Find the CP and the duration of the project.
- Assume that you are project manager of the project mentioned above. The project has progressed for 10 weeks and the status is follows:

Activities completed: A, B, E. Other activities have not started as yet.

- If no managerial action is taken at all when will the project get completed?
- What action might you take to get the project back to a schedule that can be completed by the end of week 42? 6+10=16

Section – B : Strategic Management  
PART – I

Answer Question Number 6.

6. Choose the correct answer:

- The first step takes place for price fixation is/are 1×6=6
  - A company develops or acquires a new product;
  - Introducing existing product into a new geographic area or a new distribution channel;
  - A service, the company bids for a new contract work;
  - All of the above
- Organization culture is:
  - Ability of the organization to act in a responsible manner to its employees
  - Combination of (a) and (b) above
  - Deeper level of basic assumptions and beliefs that are shared by the members of the firm
  - Appreciation for the arts in the organization
  - None of the above
- What are enduring statements of purpose that differentiate one business from other similar Firms?
  - Objectives
  - Mission statements
  - Rules
  - Policies
  - Nature of ownership

(iv) Name the two directions on which BCG matrix is based on:

- (a) Market Size and Market Share
- (b) Market Size and Profit Margins
- (a) Market Size and Competitive Intensity
- (c) None of the above.

(v) To an entrepreneur:

- (a) Profitability is most crucial
- (b) Mission is before the vision
- (c) Vision or mission are un-important issue
- (d) Vision is before the mission
- (e) Both are developed simultaneously

(vi) Directional Policy Matrix is the same as:

- (a) The BCG model;
- (b) The 9-cell GE matrix;
- (c) The Life cycle portfolio analysis;
- (d) The PIMS matrix;
- (e) The 3X3 competitive positioning matrix

**PART – II**

Answer any two questions from question numbers 7 to 9. Each question carries 12 marks

[2×12]=24

7. (a) What are the areas of attention for SWOT appraisal? What is the purpose behind such appraisal ?  
(b) Define a Company's mission. (4+4)+4=12
8. (a) Explain Strategic Business Units (SBU) & Core Competence. Why SBU approach is being used?  
(b) What are the different approaches used in Strategic Planning? (4+4)+4=12
9. Write short notes on any three of the following: 4×3=12
- (a) Types of firms/organisations for which BPR can be applied
  - (b) Participative Management
  - (c) Marketing Mix
  - (d) Strategic Planning