

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

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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) Which process is used when higher volumes of more standardised goods or services are needed ?
 - (a) Batch process
 - (b) Continuous process
 - (c) Repetitive process
 - (d) Job shop process
 - (ii) Which of the following is / are the method for solving Assignment problem?
 - (a) Complete Enumeration method
 - (b) Hungarian method
 - (c) Simplex method
 - (d) All of the above
 - (iii) The purpose of application of linear programming in industrial problems is
 - (a) to determine a plan for production and procurement in the time period under consideration
 - (b) to determine an optimal solution of the problem under the given constraints
 - (c) to determine the cost effective solution of the problem under scarce resources
 - (d) to determine a plan for time based solution to the problem for increasing productivity
 - (iv) What is the way to achieve competitive advantage in the market place from the following:
 - (a) Line Balancing
 - (b) JIT manufacturing
 - (c) Cellular manufacturing
 - (d) Batch production
 - (v) The multiple shift operation can be enhanced by adopting _____.
 - (a) Firm's Capacity utilisation
 - (b) Demand for firm's product
 - (c) Firm's labour turnover
 - (d) Firm's channel conflict

- (vi) What is the feasible solution in a linear programming model?
- The basic solution to the general L.P. problem
 - Any solution that also satisfies the non-negative restrictions of the general L.P. problem
 - A solution which optimize (maximize or minimize) the objective function of a general L. P. problem
 - A basic solution to the system of equation if one or more of the basic variables become equal to zero.
- (vii) _____ is the basis for decisions regarding capacity planning, facilities (or plant) layout, equipment and design of work systems.
- Process Design
 - Process Planning
 - Process Strategy
 - Process Selection
- (viii) Which one of the following is not a Sequencing rule for single facility?
- DSRO
 - LFT
 - SSRO
 - MDD
- (ix) What is the main reason for product design ?
- To offer new products to sustain in the market
 - To offer new products to fulfill changing preferences of customers
 - To offer new products to remain competitive in the market
 - To offer new products to cope with changing regulations in the market
- (x) What does Utilisation of resources means in operations management ?
- Obtaining maximum effect from resources
 - Minimizing loss of resources,
 - Minimising under utilization or waste of resources
 - All the above

(b) Match items in column A with that in column B [1×6=6]

Column A	Column B
(a) Improved Matrix	(i) Line Balancing
(b) Repetitive Focus	(ii) Process Strategy
(c) MRP II	(iii) Layout
(d) Degenerate	(iv) Manufacturing Resource Planning
(e) Bottleneck	(v) Job allocation
(f) Cycle time	(vi) Linear Programming

- (c) State whether the following statements are True/False. [1×6=6]
- The product's life cycle has many points of similarity with the life cycle of human.
 - The objective function and the constraint set - these are the two basic parts of the liner programming problem.
 - Working out the output per machine - hour The most widely used index of productivity .
 - The productivity is measured by how much input is required to achieve a given output.

5. One of the disadvantages Gantt Chart is that it does not clearly indicate the details regarding progress of activities.
6. Preventive maintenance provides greater safety to the workers.

PART – II

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

(3×16=48)

2. (a) What is 'Capacity Planning'? Describe the types of Capacity Planning.
- (b) A department works on 8 hours shift, 250 days a year and has the usage data of a machine, as given below:

Product	Demand in (units) p.a.	Standard Processing Time in hours per unit
A	300	4.0
B	400	6.0
C	500	3.0

Determine the number of machines required.

(8+8)=16

3. (a) Explain Process Design & Selection.
- (b) The AL service station has a central store where service mechanics arrive to take spare parts for the jobs they work upon. The mechanics wait in queue if necessary and are served on a first come first served basis. The store is manned by one attendant who can attend 10 mechanics in an hour on an average. The arrival rate of the mechanics averages 6 per hour. Assuming that the pattern of mechanics' arrivals is Poisson distribution and the servicing time is exponentially distributed, determine W_s , W_q & L_q , where the symbols vary their usual meaning.
4. (a) A captain of a Women's cricket team has to allot first five batting positions to five different batsmen. The average runs scored by each batsman at these positions are as follows:

6+10=16

Batting Position						
Women Batsmen		1st	2nd	3rd	4th	5th
	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.

- (b) Wanda's SUV Car Services is an automatic, five-minute operation with a single bay. On a typical Saturday morning, SUVs arrive at a mean rate of eight per hour, with arrivals tending to follow a Poisson distribution. Find
 - (i) The average number of SUVs in line.
 - (ii) The average time SUVs spend in line and service.
5. (a) What are reasons behind preferring Gantt Charts?
- (b) A Public transport system is experiencing the following number of breakdowns for months over the past 2 years in their new fleet of vehicles:

10+6=16

Number of breakdowns	0	1	2	3	4
Number of months this occurred	2	8	10	3	1

Each break down costs the firm an average of ₹ 2,800. For a cost of ₹1,500 per month, preventive maintenance can be carried out to limit the breakdowns to an average of one per month. Enumerate the suitable policy for the firm? [6+10=16]

Section – B : Strategic Management

PART – I

Answer Question Number 6.

6. Choose the correct answer from the given alternatives: [1×6=6]

- (i) Which of the following is correct in case of Mckinsey's 7-s framework ?
 - (a) Structure, strategy, software, skills, styles, staff and supervision
 - (b) Structure, strategy, systems, skills, styles, syndication and shared values
 - (c) Structure, strategy, systems, skill, steering power, styles and shared values.
 - (d) Structure, strategy, staff, skills, systems, shared values, super ordinate goal.
- (ii) A strategic business unit (SBU) is defined as a division of an organization, which helps in :
 - (a) The marketing operation
 - (b) Managers to have better control over the resources
 - (c) The choice of technology
 - (d) The allocation of scarce resources
- (iii) In low return industries a competition's intensity is _____.
 - (a) Low
 - (b) Non – existent
 - (c) High
 - (d) Not important
- (iv) Ansoff proposed that for filling the corporate planning gap, one should adopt four strategies, which are:
 - (a) Market penetration, product differentiation, market identification and diversification
 - (b) Market penetration, product development, market identification and diversification
 - (c) Market penetration, product development, market development and diversification
 - (d) Market identification, product development, positioning and diversification
- (v) In case of an actress in Bollywood, her beautiful face would a/an
 - (a) Asset
 - (b) Strategic asset
 - (c) Core competency
 - (d) Capability
- (vi) Which of the following is same as Corporation?
 - (a) Corporate dream
 - (b) Corporate mission

- (c) Corporate goal
- (d) Corporate strategy

PART – II

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

[2×12]=24

7. (a) Enumerate the relationship between 'Strategy' & 'Competitive Advantage'.
- (b) What do you understand by 'Strategic Management'? State the reasons why Strategic Management is important? [6+6=12]
8. (a) What is meant by 'A strategic vision'?
- (b) Describe advantages of having a Vision? [6+6=12]
9. Write short notes on any three of the following: [4×3]=12
- (a) Business Process Re-engineering
 - (b) Environmental Analysis
 - (c) Market Penetration Strategy
 - (d) Boston Matrix