

Paper - 9 : OPERATIONS MANAGEMENT & STRATEGIC MANAGEMENT

Paper – 9 : Operation 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 I : (Operation Management)

1. (a) Choose the most correct alternative: [1*10]
- (i) The desire objective of Production and Operation Management is
 - (A) Use of cheap machinery to produce,
 - (B) To train unskilled workers to manufacture goods perfectly,
 - (C) Optimal utilization of available resources,
 - (D) To earn good profits.
 - (ii) Most suitable layout for job Production is
 - (A) Line layout,
 - (B) Matrix layout,
 - (C) Process layout,
 - (D) Product layout.
 - (iii) To 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.
 - (iv) Routine and Scheduling becomes relatively complicated in
 - (A) Job production,
 - (B) Batch production,
 - (C) Flow production,
 - (D) Mass production.
 - (v) 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 material
 - (vi) The first stage in production planning is:
 - (A) Process planning,
 - (B) Factory planning,
 - (C) Operating planning,
 - (D) Layout planning.

(vii) The time horizon selected for forecasting depends on

- (A) The salability of the product,
- (B) The selling capacity of salesman,
- (C) Purpose for which forecast is made,
- (D) Time required for production cycle.

(viii) In transportation models, points of demand is classified as

- (A) Ordination,
- (B) Transportation,
- (C) Destinations,
- (D) Origins.

(ix) Jigs are used in machine tool for holding:

- (A) Tools,
- (B) Work piece,
- (C) Head stock,
- (D) Tail stock

(x) Addition of value to raw materials through application of technology is:

- (A) Product,
- (B) Production,
- (C) Advancement,
- (D) Transformation.

(b) Match the terms in Column I with the relevant terms in Column II.

[1*6]

Column I	Column II
(A) Furniture	(i) Assembly line
(B) Hydro-electricity	(ii) Refinery
(C) Television set	(iii) Carpentry
(D) Cement	(iv) Turbo-alternator
(E) Aviation Fuel	(v) Rotary kiln
(F) Tools	(vi) Machine shop

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

[1×6]

- (i) In carrying out Job Evaluation studies, point system is the best method ()
- (ii) Increase in productivity leads to retrenchment of work force ()
- (iii) Project costs increase as the duration of the project increases ()
- (iv) Job Evaluation is a systematic approach to ascertain the labour worth of a job ()
- (v) There is a limit beyond which labour productivity cannot be improved ()
- (vi) Breakdown maintenance doesn't require use of standby machines ()

2. (a) Define forecasting. Why sales forecasting is the most important activity in the business? [6]

Demand in (000 MT) for sugar of S Ltd is given below:

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Year	2010	2011	2012	20	2014	2015	2016
Demand	77	88	94	85	91	98	90

- (i) Fit a straight line trend by method of least square;
 (ii) Obtain the forecast of demand for the year 2017 [10]

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

(b) Machine A costs of ₹ 80,000. Annual operating costs are ₹2,000 for the first year, and they increase by ₹15,000 every year (for example, in the fourth year the operating costs are ₹47,000). Determine the least age at which to replace the machine. If the optimal replacement policy is followed; what will be the average yearly cost of operating and owning the machine? (Assume that the resale value of the machine is zero when replaced, and that future costs are not discounted.

- (i) Another machine B costs ₹1,00,000. Annual operating cost for the first year is ₹4,000 and they increase by ₹7,000 every year. The firm has a machine of type A which is one year old. Should the firm replace it with B and if so, when?
 (ii) Suppose the firm is just ready to replace the machine A with another machine of the same type, just then the firm gets an information that the machine B will become available in a year. What should the firm do? [10]

4. (a) Priyanshu enterprise has three factories at locations A, B and C which supply three warehouses located at D, E and F. Monthly factory capacities are 10, 80 and 15 units respectively. Monthly warehouse requirements are 75, 20 and 50 units respectively. Unit shipping costs (in ₹) are given in the following table:

	To	D	E	F
	A	5	1	7
From	B	6	4	6
	C	3	2	5

The penalty costs for satisfying demand at the warehouses E, E and F are ₹5, ₹3 and ₹ 2 per unit respectively. Determine the optimum distribution for Priyanshu, using any of the know algorithms. [10]

(b) Enumerate four differences between PERT and CPM. [6]

5. (a) The following table gives data on normal time & cost and crash time & cost for a project.

Activity	Normal		Crash	
	Time (days)	Cost (₹)	Time (days)	Cost (₹)
1 – 2	6	600	4	1,000
1 – 3	4	600	2	2,000

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2 – 4	5	500	3	1,500
2 – 5	3	450	1	650
3 – 4	6	900	4	2,000
4 – 6	8	800	4	3,000
5 – 6	4	400	2	1,000
6 – 7	3	450	2	800

The indirect cost per day is ₹100.

1. Draw the network and identify the critical path.
2. What are the normal project duration and associated cost? [10]

(b) A fleet owner finds from his past records that the costs per year of running a vehicle whose purchase price is ₹1,00,000 are as under:

Year	1	2	3	4	5
Running costs (₹)	10,000	12,000	13,500	15,000	18,000
Resale value (₹)	80,000	65,000	55,000	25,000	6,000

Thereafter, running cost increases by ₹3,000, But resale value remains constant at ₹6,000.
At what age is a replacement due? [6]

Section – B

6. Choose the correct answer: [1*6]

(i) Behaviour modification includes

- A. Involving employees in decision making
- B. Positive reinforcement
- C. Job enlargement
- D. Job enrichment and Flexi time.

(ii) Successful differentiation strategy allows the company to:

- A. gain buyer loyalty to its brands
- B. charge too high a price premium
- C. depend only on intrinsic product attributes
- D. have product quality that exceeds buyers needs
- E. segment a market in to distinct group of buyer

(iii) Matrix structure

- A. structural grouping is geographic
- B. simultaneous combination of similar activities on the basis of function

- C. adopts parts of both functional and divisional structures at the same level of management
 - D. creates a dual chain of command
- (iv) The conditional of Low share, Negative growth, and negative cash flow indicates –
- A. Dogs
 - B. Dodos
 - C. Donkey
 - D. Dinosaurs
- (v) Benchmarking is :
- A. The analytical tool to identifying 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
 - E. The framework that earmarks a linkage with suppliers and customers
- (vi) A product line is a group of product that
- A. are closely related
 - B. are marketed through the same channel
 - C. performance a similar function for being sold to the same customers
 - D. all of the above

Answer any one question from the following:

7. (a) State the approaches of Strategic Planning.
- (b) Discuss Contingency Planning & its seven steps. [6+6]
8. (a) Discuss various stages in strategic planning.
- (b) Define SBU. What are its merits & demerits? [6+6]
9. Write short notes on any three of the following four questions: [4*3]
- (a) PEST Framework;
 - (b) Limitation of B.C.G Model;
 - (c) SWOT Analysis;
 - (d) Market Penetration Strategy.