

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) Which one is NOT an index of Productivity?
 - (A) Man-hour output
 - (B) Productivity ratio
 - (C) TQM
 - (D) Use of Financial Ratios
- (ii) Which of the following stages of Product Life Cycle does attribute beginning of substantial increase in Sales and Profits?
 - (A) Introduction
 - (B) Growth
 - (C) Maturity
 - (D) Decline
- (iii) 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
- (iv) In an organization, the Production Planning and Control department comes under
 - (A) Planning department
 - (B) Manufacturing department
 - (C) Personnel department
 - (D) R & D department
- (v) Preventive maintenance is useful in reducing
 - (A) Inspection Cost
 - (B) Cost of premature replacement
 - (C) Shutdown Cost
 - (D) Set-up Cost of machine
- (vi) Reliability and per unit cost of which of the following spares are less?
 - (A) Regular spares
 - (B) Insurance spares
 - (C) Capital spares
 - (D) Rotable spares

- (vii) Long range forecasting is useful in:
- (A) Plan for research and development
 - (B) To schedule jobs in job production
 - (C) In purchasing the material to meet the present production demand
 - (D) To access man power required in the coming month
- (viii) The act of releasing the production documents to production department is known as:
- (A) Routine
 - (B) Scheduling
 - (C) Expediting
 - (D) Dispatching
- (ix) 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.
- (x) Most suitable layout for continuous production is:
- (A) Line layout
 - (B) Process layout
 - (C) Group technology
 - (D) Matrix layout

(b) Match the terms in Column I with the relevant terms in Column II-(ANY Six)

[1*6]

Column I	Column II
(A) Electricity	(i) Blast Furnace
(B) Petrol	(ii) Generator
(C) Iron	(iii) Refinery
(D) Cloth	(iv) Assembly Line
(E) Car	(v) Smithy
(F) Cotton Yarn	(vi) Spinning Mill
(G) Forgings	(vii) Power Loom

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

[1×6]

- (i) A Productivity Index is a device of expressing the ratio between outputs and the inputs of the resources numerically.
- (ii) It is desirable to conduct work measurement after method study.
- (iii) Increase in productivity leads to retrenchment of work force.
- (iv) The term "aesthetics" which appeals to the human sense does not add value to the product.
- (v) In general short term forecasting will be more useful in production planning.
- (vi) Production planning and control is essentially concerned with the control of finished goods.

2. (a) What are the characteristics of modern operation function? [8]

(b) With the help of following data project the trend of sales for the next five years:

Year	2002	2003	2004	2005	2006	2007
Sales (in lakhs)	100	110	115	120	135	140

[8]

3. (a) Linear Programming tools can be used in Management Application – Explain. [4]

(b) A pension fund manager is considering investing in two shares A and B. It is estimated that:

- (i) Share A will earn a dividend of 12% per annum and share B 4% per annum.
- (ii) Growth in the market value in one year of share A will be 10 paise per ₹1 invested and in B 40 paise per ₹1 invested.

He required investing the minimum total sum which will give:

Dividend income of at least ₹600 per annum and growth in one year of at least ₹1,000 on the initial investment.

Your are required to:

- (i) State the mathematical formulation of the problem
- (ii) Compute the minimum sum to be invested to meet the manager's objective. [8]

(c) What are the limitations of Linear Programming? [4]

4. (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	2	4	7	6	5	3

Sequence the jobs according to priority established by (a) least slack rule (b) critical ratio rule. [8]

(b) A bakery keeps stock of a popular brand of cake. Previous experience shows the daily demand pattern for the item with associated probabilities, as given below:

Daily demand (number)	0	10	20	30	40	50
Probability	0.01	0.20	0.15	0.50	0.12	0.02

Use the following sequence of random numbers to simulate the demand for next 10 years.

Random numbers: 48, 78, 19, 51, 56, 77, 15, 14, 68, 9.

Also estimate the daily average demand for the cakes on the basis of simulated data. [8]

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. [6]

- (b) Indian Electronics, manufactures TV sets and carries out the picture tube testing for 2000 hours. A sample of 100 tubes was put through this quality test during which two tubes failed. If the average usage of TV by the customer is 4 hours/day and if 10,000 TV sets were sold, then in one year how many tubes were expected to fail and what is the mean time between failures for these tubes? [10]

Section – B

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

- (i) McKinsey's 7-s Framework does not include

- A. Skills
- B. Structure
- C. SBU
- D. Shared Values.

- (ii) Typical profits are highest in which stage of the industry life-cycle?

- A. Introduction
- B. Growth
- C. Maturity
- D. Decline

- (iii) 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
- E. That help in identifying talents and potentials of people

- (iv) Intensity of competition is _____ in low return industries
- A. low
 - B. non - existent
 - C. high
 - D. not important dependent on industry nature
- (v) 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
- (vi) What are enduring statements of purpose that distinguish one business from other similar firms?
- A. Policies
 - B. Mission statements
 - C. Objectives
 - D. Rules
 - A. Nature of ownership

Answer any one question from the following:

7. (a) Discuss the different types of organizational structures. [6]
- (b) Enlist the advantage of Strategic Management. [6]
8. (a) Distinguish between Strategic Planning and Strategic Management. [6]
- (b) Discuss about 'Marketing Mix'. [6]
9. Write a short note of the following three questions: [4*3]
- (a) Strategic Management Framework;
 - (b) Mc Kinsey's 7 –s Frame work;
 - (c) Business Process Re-engineering;
 - (d) Matrix Organization Structure.