Paper 9- OPERATIONS MANAGEMENT & 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

1. (a) Choose the correct answer: [1x10=10]

(i) Generally the size of the order for production in Job production is:
- **a. Small**
- **b. Large**
- **c. Medium**
- **d. Very large**

(ii) 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**

(iii) In job production system, we need:
- **a. More unskilled labours**
- **b. Skilled labours**
- **c. Semi-skilled labours**
- **d. Old people**

(iv) 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 materials**

(v) 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**

(vi) The act of going round the production shop to note down the progress of work and feedback the information is known as:

a. Follow up
b. Dispatching
c. Routing
d. Trip card

(vii) MRP stands for:

a. Material requirement planning
b. Material reordering planning
c. Material requisition procedure
d. Material recording procedure

(viii) One of the important charts used in programme control is:

a. Material chart
b. Gantt chart
c. Route chart
d. Inspection chart

(ix) Variety reduction is generally known as:

a. Less varieties
b. Simplification
c. Reduced varieties
d. None of the above

(x) Conversion of inputs into outputs is known as:

a. Application of technology
b. operations management
c. Manufacturing products
d. product

Answer:

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
a	b	b	d	c	a	a	b	b	c

(b) Match the products in Column-I with production centres in column –II:

[1x6=6]

	I		**II**
(A)	Electricity	(a)	Blast Furnace
(B)	Petrol	(b)	generator
(C)	Iron	(c)	Refinery
(D)	Cloth	(d)	Assembly line
(E)	Car	(e)	spinning Mill
(F)	Cotton yarn	(f)	power Loom

Answer:

	I		II
(A)	Electricity	(b)	generator
(B)	Petrol	(c)	Refinery
(C)	Iron	(a)	Blast Furnace
(D)	Cloth	(f)	power Loom
(E)	Car	(d)	Assembly line
(F)	Cotton yarn	(e)	spinning Mill

(c) State whether the following statements are True or False: [1x6=6]

(i) Method study should precede work measurement.
(ii) Increased productivity leads to cost reduction.
(iii) A good materials handling system always consists of conveyors.
(iv) Project costs increase as the duration of the project increases.
(v) It is desirable to conduct work measurement after method study.
(vi) No handling is the best handling.

Answer:

(i)	(ii)	(iii)	(iv)	(v)	(vi)
T	T	F	T	T	T

Answer any three questions from the following: [3x16=48]

2. (a) List the scope of operations management. [8]

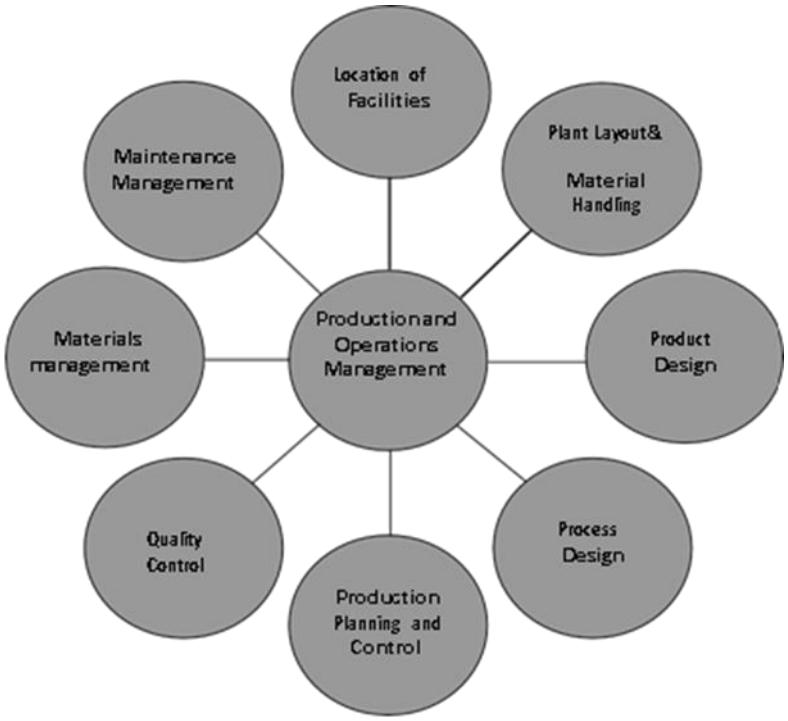
(b) What are the characteristics of a good plant layout? [8]

Answer:

(a) Operations Management concerns with the conversion of inputs into outputs, using physical resources, so as to provide the desired utilities to the customer while meeting the other organizational objectives of effectiveness, efficiency and adoptability. It distinguishes itself from other functions such as personnel, marketing, finance, etc. by its primary concern for 'conversion by using physical resources'. Following are the activities, which are listed under Production and Operations Management functions:

1. Location of facilities.
2. Plant layouts and Material Handling.
3. Product Design.

4. Process Design.
5. Production Planning and Control.
6. Quality Control.
7. Materials Management.
8. Maintenance Management.



Scope of production and operations management

(b) Characteristics of good plant layout-

- Efficient utilisation of labour reduced idle time of labour and equipments,
- Higher flexibility (to change the layout easily),
- Higher utilisation of space, equipment and people (employees),
- Improved employee morale and safe working conditions,
- Improved flow of materials, information and people (employees),
- Improved production capacity
- Reduced congestion or reduced bottleneck centers,
- Reduced health hazards and accidents,
- To allow ease of maintenance,
- To facilitate better coordination and face-to-face communication where needed,
- To improve productivity,
- To provide ease of supervision,
- To provide product flexibility and volume flexibility,
- To utilise available space efficiently and effectively.

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

(b) A department works on 8 hours shift, 288 days a year and has the usage data of a machine, as given below:

Product	Annual Demand (units)	Processing time (standard time in hours)
A	325	5.0
B	450	4.0
C	550	6.0

Calculate:

(a) processing time needed in hours to produce products A, B and C,

(b) Annual production capacity of one machine in standard hours, and Number of machines required. [10]

Answer:

(a) Production or operations strategy is directly influenced by product design for the following reasons:

(i) As products are designed, all the detailed characteristics of each product are established.

(ii) Each product characteristic directly affects how the product can be made or produced (i.e., process technology and process design) and

(iii) How the product is made determines the design of the production system (production design) which is the heart of production and operations strategy. Further, product design directly affects product quality, production costs and customer satisfaction. Hence, the design of product is crucial to success in today's global competition.

A good product design can improve the marketability of a product by making it easier to operate or use, upgrading its quality, improving its appearance, and/or reducing manufacturing costs.

A distinctive design may be the only feature that significantly differentiates a product. An excellent design includes usability, aesthetics, reliability, functionality, innovation and appropriateness. An excellent design provides competitive advantage to the manufacturer, by ensuring appropriate quality, reasonable cost and the expected product features. Firms of tomorrow will definitely compete not on price and quality, but on product design.

The activities and responsibilities of product design include the following:

(i) Translating customer needs and wants into product and service requirements (marketing).

(ii) Refining existing products (marketing).
(iii) Developing new products (marketing, product design and production).
(iv) Formulating quality goals (quality assurance, production).
(v) Formulating cost targets (accounting).
(vi) Constructing and testing prototype (marketing, production).
(vii) Documenting specifications (product design).

Process Design is concerned with the overall sequences of operations required to achieve the product specifications. It specifies the type of work stations to be used, the machines and equipment's necessary to carry out the operations. The sequence of operations are determined by (a) the nature of the product, (b) the materials used, (c) the quantities to be produced and (d) the existing physical layout of the plant. The process design is concerned with the following:

(i) Characteristics of the product or service offered to the customers.
(ii) Expected volume of output.
(iii) Kinds of equipments and machines available in the firm.
(iv) Whether equipments and machines should be of special purpose or general purpose.
(v) Cost of equipments and machines needed.
(vi) Kind of labour skills available, amount of labour available and their wage rates.
(vii) Expenditure to be incurred for manufacturing processes.
(viii) Whether the process should be capital-intensive or labour-intensive.
(ix) Make or buy decision.
(x) Method of handling materials economically.

Process selection determines whether resources are organised around products or processes in order to implement the flow strategy. It depends on the volumes and degree of customisation to be provided.

These major process decisions are discussed in detail in the following paragraphs:

Process Choice: The production manager has to choose from five basic process types — (i) job shop, (ii) batch, (iii) repetitive or assembly line, (iv) continuous and (v) project.

(i) Job shop process: It is used in job shops when a low volume of high-variety goods are needed. Processing is intermittent, each job requires somewhat different processing requirements. A job shop is characterised by high customisation (made to order), high flexibility of equipment and skilled labour and low volume. A tool and die shop is an example of job shop, where job process is carried out to produce one-of-a kind of tools. Firms having job shops often carry out job works for other firms. A job shop uses a flexible flow strategy, with resources organised around the process.

(ii) Batch process: Batch processing is used when a moderate volume of goods or services is required and also a moderate variety in products or services. A batch process differs from the job process with respect to volume and variety. In batch processing,volumes are higher because same or similar products or services are repeatedly provided, examples of products produced in batches include paint, ice cream, soft drinks, books and magazines.

(iii) Repetitive process: This is used when higher volumes of more standardised goods or services are needed. This type of process is characterised by slight flexibility of equipment (as products are standardised) and generally low labour skills. Products produced include automobiles, home appliances, television sets, computers, toys etc. Repetitive process is also referred to as line process as it includes production lines and assembly lines in mass production.

(iv) Continuous process: This is used when a very highly standardised product is desired in high volumes. These systems have almost no variety in output and hence there is no need for equipment flexibility. A continuous process is the extreme end of high volume, standardised production with rigid line flows. The process often is capital intensive and operate round the clock to maximise equipment utilisation and to avoid expensive shut downs and shut ups. Examples of products made in continuous process systems include petroleum products, steel, sugar, flour, paper, cement, fertilisers etc.

(v) Project process: It is characterised by high degree of job customisation, the large scope for each project and need for substantial resources to complete the project. Examples of projects are building a shopping centre, a dam, a bridge, construction of a factory, hospital, developing a new product, publishing a new book etc. Projects tend to be complex, take a long time and consist of a large number of complex activities. Equipment flexibility and labour skills can range from low to high depending on the type of projects.

(b) (a) The processing time needed in hours to produce products A, B and C in the quantities demanded using the standard time data:

Product	Annual Demand (units)	Processing time (standard time in hours)	Processing time needed to produce demand quantity (hrs.)
A	325	5.0	325 × 5 = 1,625
B	450	4.0	450 × 4 = 1,800
C	550	6.0	550 × 6 = 3,300
			Total = 6,725 hrs.

(b) Annual production capacity of one machine in standard hours = 8 × 288 = 2,304 hours per year.

(c) Number of machines required = Work load per year / Production capacity per Machine = 6,725 / 2,304 = 2.90 machines = 3 machines.

4. (a) A captain of a cricket team has to allot five middle batting positions to five batsmen. The average runs scored by each batsman at these positions are as follows:

		Batting Position				
		III	**IV**	**V**	**VI**	**VII**
Batsmen	**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. [10]

(b) Table shows the time remaining (number of days until due date) and the work remaining (number of day's work) for 5 jobs which were assigned the letters A to E as they arrived to the shop. Sequence these jobs by priority rules viz., (a) FCFS, (b) EDD, (c) LS (d) SPT and (e) LPT. [6]

Job	Number days until due date	Number of days work remaining
A	**8**	**7**
B	**3**	**4**
C	**7**	**5**
D	**9**	**2**
E	**6**	**6**

Answer:

(a)

	III	IV	V	VI	VII
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

Loss matrix

	III	IV	V	VI	VII
A	20	20	25	35	10
B	18	30	44	35	33
C	10	12	20	0	10
D	40	41	40	42	35
E	2	0	1	5	7

Row operation

	III	IV	V	VI	VII
A	10	10	15	25	0
B	0	12	26	17	15
C	10	12	20	0	10
D	5	6	5	7	0
E	2	0	1	5	7

Column Operation

	III	IV	V	VI	VII
A	10	10	15	25	0
B	0	12	26	17	15
C	10	12	20	0	10
D	5	6	5	7	0
E	2	0	1	5	7

Minimum no. of horizontal and vertical straight lines to cover all the zeros = 4 ≠ Order of the matrix (5). So the solution is non optimal.

Improved matrix

	III	IV	V	VI	VII
A	10	6	10	25	[0]
B	[0]	8	21	17	15
C	10	8	15	[0]	10
D	5	2	[0]	7	0
E	6	[0]	0	9	11

Here minimum no. of horizontal and vertical straight lines to cover all the zeros = 5 = Order of the matrix. So the solution is optimal.

Optimal Assignment

Batsman	Batting Position	Average runs scored
A	VII	50
B	III	42
C	VI	60
D	V	20
E	IV	60
Total =		232

Expected maximum total runs = 232

(b) (a) FCFS (First come first served): Since the jobs are assigned letters A to E as they arrived to the shop, the sequence according to FCFS priority rule is

A B C D E

(b) EDD (Early due date job first) rule: Taking into account the number of days until due date, the sequence of jobs as per EDD rules is:

Job	B	E	C	A	D
No. of days units/due date	3	6	7	8	9

Here the job having earliest due date is sequenced first and the others are sequenced in ascending order of due date.

(c) L.S. (Least slack) rule also called as Minimum slack rule.

Calculation of slack:

Slack = (Number of days until due date) - (Number of days of work remaining)

Job	No. of days until/due date	No. of days of work remaining	Slack (Days)
A	8	7	8 – 7 = 1
B	3	4	3 – 4 = -1
C	7	5	7 – 5 = 2
D	9	2	9 – 2 = 7
E	6	6	6 – 6 = 0

Sequence:

Job	B	E	A	C	D
Slack	-1	0	1	2	7

Here the jobs are sequenced in ascending order of magnitude of their respective slacks.

(d) SPT (Shortest Processing Time job first) also referred as SOT (Shortest Operation time job First) rule or MINPRT (Minimum Processing time job first) rule. As per this rule, jobs are sequenced in ascending order of magnitude of their respective processing time.

Sequence:

Job	D	B	C	E	A
Processing Time (Days)	2	4	5	6	7

(e) LPT (Longest Processing time job first) also referred to as LOT (Longest operation time job first) rule. As per this rule jobs are sequenced in descending order of magnitude of their respective processing times.

Sequence:

Job	A	E	C	B	D
Processing Time(Days)	7	6	5	4	2

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. [8]

(b) A large computer installation contains 2,000 components of identical nature which are subject to failure as per probability distribution that follows:

Month End:	**1**	**2**	**3**	**4**	**5**
% Failure to date:	**10**	**25**	**50**	**80**	**100**

Components which fail have to be replaced for efficient functioning of the system. If they are replaced as and when failures occur, the cost of replacement per unit is ₹3. Alternatively, if all components are replaced in one lot at periodical intervals and individually replace only such failures as occur between group replacement, the cost of component replaced is ₹1.

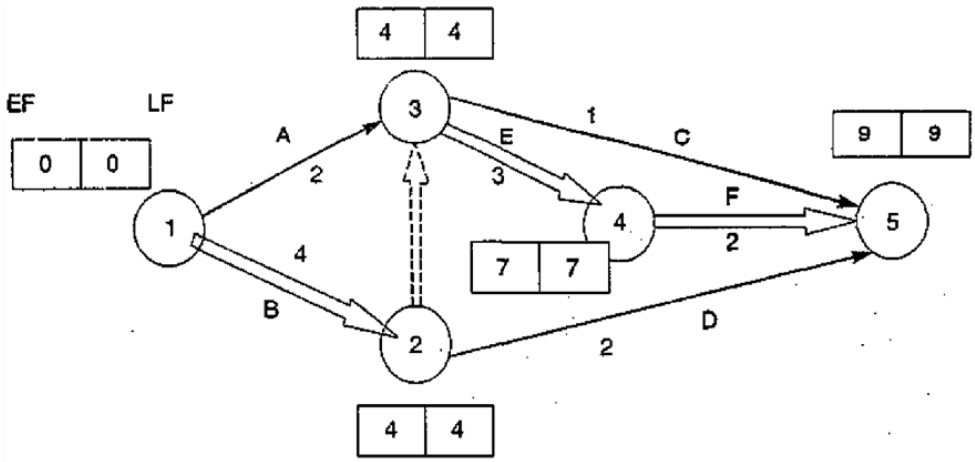
(I) Assess which policy of replacement would be economical.

(II) If group replacement is economical at current costs, then assess at what cost of individual replacement would group replacement be uneconomical.

(III) How high can the cost per unit in-group replacement be to make a preference for individual replacement policy? [8]

Answer:

(a)

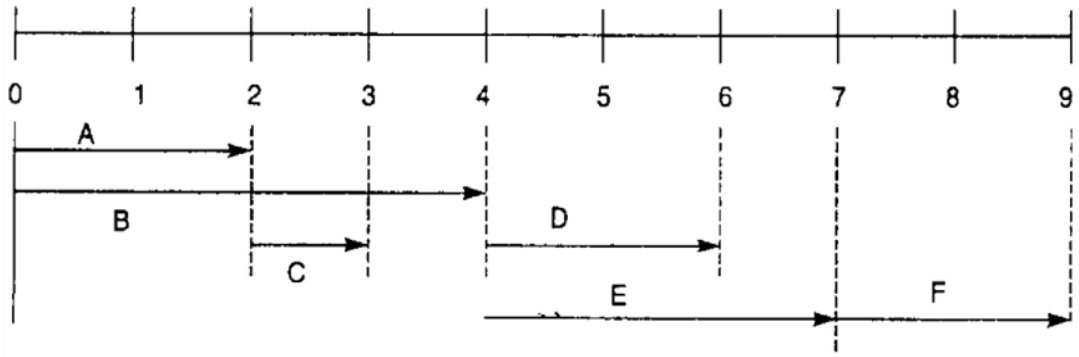


Critical Path 1 – 2 – 3 – 4 – 5

Minimum time = 9

Table : Activity Relationship

Activity	t	ES (EF- t)	EF	LS (LF- t)	LF	Event Slack (LS-ES) (LF-EF)	On Critical Path
A	2	0	2	2	4	2	No
B	4	0	4	0	4	0	Yes
C	1	4	5	8	9	4	No
D	2	4	6	7	9	3	No
E	3	4	7	4	7	0	Yes
F	2	7	9	7	9	0	Yes



(b) (I) Computation of failures & Mean life

Month (X_i)	Probability of Failure (P_i)	P_1X_1
1	0.10	0.10
2	0.15	0.30
3	0.25	0.75
4	0.30	1.20
5	0.20	1.00

		$\Sigma p_i x_i$ = 3.35 month

(i) Average Life of a component = 3.35 Months

(ii) Average No. of Replacements = 2000/3.35 = 597 per month

(iii) Cost of Individual Replacement = 597 x ₹3 = ₹ 1791 per month

Computation of expected No. of Replacements:

Month	Expected number of components to be replaced by the month end	
1	$N_1 = N_0P_1$ = 2000 x 0.1	200
2	$N_2 = N_0P_2 + N_1P_1$ = 2000 x 0.15 + 200 x 0.1	320
3	$N_3 = N_0P_3 + N_1P_2 + N_2P_1$ = 2000 x 0.25 + 200 x 0.15 + 320 x 0.1	562
4	$N_4 = N_0P_4 + N_1P_3 + N_2P_2 + N_3P_1$ = 2000 x 0.3 + 200 x 0.25 + 320 x 0.15 + 562 x 0.1	754.2
5	$N_5 = N_0P_5 + N_1P_4 + N_2P_3 + N_3P_2 + N_4P_1$ = 2000 x 0.2 +200 x 0.3 + 320 x 0.25 + 562 x 0.15 + 754.2 x 0.1	699.72

Computation of Average cost

Month (x)	**Cumulative number of component Replace individually by month end**	**Cost**		**Total Cost (Tc)**	**Average Cost = Tc/n**
		Individual	**Group**		
		₹	₹	₹	₹ per month
1	200	600	2000	2600	2600
2	520	1560	2000	3560	1780
3	1082	3246	2000	5246	**1748.67***
4	1836.2	5508.6	2000	7508.6	1877.15
5	2535.92	7607.76	2000	9607.76	1921.55

Since the average cost is lowest in 3rd month, the optimal interval i.e. replacement is 3 months. Also the average cost is less than ₹1791 of individual replacement, the group replacement policy is better.

(II) Let 'K' be the cost of Individual Replacement

Month	**Average Cost of Group Replacement**	**Average cost of Individual Replacement**	**'K' Value* (₹)**
1	(2000 + 200 K)/1	597 K	5.04
2	(2000 + 520 K)/2	597 K	2.97
3	(2000 + 1082 K)/3	597 K	**2.82**
4	(2000 + 1836.2 K)/4	597 K	3.62
5	(2000 + 2535.92 K)/5	597 K	4.45

* To obtai the value of K use the equation Average cost of Individual Replacement = Average Cost of Group Replacement

(III) Let 'a' be the unit cost of Group Replacement Policy

Month	Average Cost of Group Replacement	Average of Individual Replacement	'a' Value (₹)
1	(2000 a + 600)/1	1791	0.60
2	(2000 a + 1560)/2	1791	1.01
3	(2000 a + 3246)/3	1791	**1.06**
4	(2000 a + 5508.6)/4	1791	0.83
5	(2000 a + 7607.76)/5	1791	0.67

When unit cost is more than ₹ 1.06 then Individual Replacement policy would be better.

Section – B

6. Choose the correct answer: [6x1=6]

(i) A corporate strategy can be defined as:

(a) A list of actions about operational planning and statement of organization structure and control system:

(b) A statement of how to compete, directions of growth and method of assessing environment;

(c) Abatement of organization's activities and allocation of resources;

(d) A course of action or choice of alternatives, specifying the resources required to achieve certain stated objectives;

(ii) 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;

(iii) Benchmarking is:

(a) The analytical too! To identify 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;

(iv) What are enduring statements of purpose that distinguish one business from other similar firms:

(a) Policies
(b) Mission statements
(c) Objectives
(d) Rules.

(v) Indian Airlines decreasing the airfare on the Delhi – Mumbai sector following the introduction of the no frills airlines would be an example of

(a) Cost leadership
(b) Price leadership
(c) Product differentiate
(d) Focus.

(vi) Question mark in BCG Matrix is an investment, which

(a) Yields low current income but has bright growth prospects
(b) Yields high current income and has bright growth prospects
(c) Yields high current income and has bleak growth prospects
(d) Yields low current income and has bleak growth prospects.

Answer:

(i)	(ii)	(iii)	(iv)	(v)	(vi)
d	b	b	b	b	a

Answer any two questions from the following: [2x12=24]

7. (a) What do you mean by strategy? State is features. [5]

(b) Explain the objective of SWOT analysis and its advantages and criticism? [7]

Answer:

(a) Strategy is all about integrating organizational activities and utilizing and allocating the scarce resources within the organizational environment so as to meet the present objectives. Strategy can also be defined as knowledge of the goals, the uncertainty of events and the need to take into consideration the likely or actual behavior of others. The definition of strategy encompasses a comprehensive master approach that states how the corporation will achieve its

mission and objectives. It maximizes competitive advantage and minimizes competitive disadvantage.

Features of Strategy:

(i) Strategy is important to foresight, the uncertain events of firms/industries.
(ii) Strategy deals with long term developments rather than routine operations. For example, innovations or new products, new methods of productions, or new markets to be developed in future.
(iii) Strategy is created to deal behaviour of customers and competitors.
(iv) Strategy is a well-defined roadmap of an organization. It defines the overall mission, vision and direction of an organization. The objective of a strategy is to maximize an organization's strengths and to minimize the strengths of the competitors.

(b) Objectives of SWOT analysis:

SWOT analysis involves a systematic analysis of the internal strengths and weaknesses of a firm (financial, technological, managerial) and of the external opportunities and threats in the firm's environment (changes in the markets, laws, technology and the actions of the competitors). This will provide a basis for evaluating the extent to which the firm is likely to achieve its various objectives and for identifying new products and market opportunity. It is an internal appraisal of a firm. The purpose of SWOT analysis will be to expose the strengths and weaknesses of the firm.

Further a SWOT Analysis will help in defining the strategic approach to be formulated that will fit in admirably with the environment.

An analysis of Opportunities and Threats is concerned with identifying profitmaking opportunities in the business environment and for identifying threats - e.g., falling demand, new competition, government legislation etc., it is thus an external appraisal, strengths and weaknesses analysis.

Identification of shortcomings in skills or resources could lead to a planned acquisition programme or staff recruitment and training. Thus SWOT analysis helps in highlighting areas within the company, which are strong and which might be exploited more fully and weaknesses, where some defensive planning might be exploited more fully and weaknesses, where some defensive planning might be required to prevent the company from poor results.

Advantages:

The following may be termed as _Opportunities' which should be timely utilised and availed of by the organisation gainfully:

(i) Seasonal/climatical demand of products
(ii) Global markets for the company's products/services (Export opportunities)
(iii) Rural markets to explore and to penetrate
(iv) To explore the markets in the undeveloped/under-developed/developing states/ places
(v) To avail of the incentives/concessions declared by Central and State Governments
(vi) Diversifications opportunities
(vii) Mergers/acquisition opportunities
(viii) Good home market available due to boost in the economy
(ix) Liberalised policies of the Government both at Centre as well as State level for the individual production and industrial developments.

Similar to opportunities, there may be threats too prevailing from time to time, which must be examined and necessary action taken to be free from these or to solve these prudently so that loss to the organisation may be minimum. The probable threats, which may arise or be faced by the organisation, are listed out as under:

Criticisms:

(i) Globalisation
(ii) Competition
(iii) Price cutting war
(iv) Free imports
(v) Industrial unrest
(vi) Political instability
(vii) Quality thrusts
(viii) High and adverse debt equity ratio
(ix) Increase in financing cost
(x) Economic slowdown due to international recession impact

In the above Para, details of:

(i) Strengths
(ii) Weaknesses
(iii) Opportunities
(iv) Threats

Each and every factor of the SWOT would be analysed critically to find out a best alternative out of various alternatives available.

8. (a) Discuss various stages in Strategic Planning. [6]

(b) Discuss Mc Kinsey's 7-s frame work. [6]

Answer:

(a) The various stages in strategic planning are given below:

Stage I: Strategic Option Generations

At this stage, a variety of alternatives are considered, relating to the firm's product and markets, its competitors and so forth. Examples of strategies might be:

(A) increase market share

(B) penetration into international market

(C) concentration on core competencies

(D) acquisition or expansion etc.

Stage II - Strategic Options Evaluation

Each option is then examined on its merits.

(A) does it increase existing strengths?

(B) does it alleviate existing weaknesses?

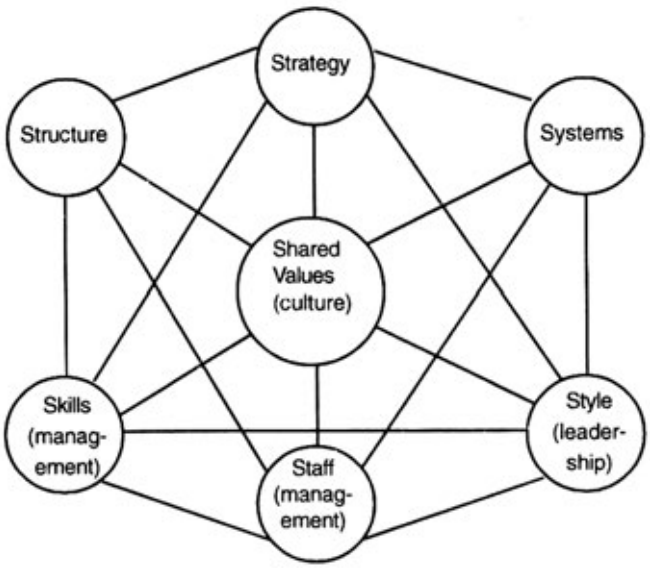
(C) is it suitable for the firm's existing position?

(D) is it acceptable to stakeholders?

Stage III - Strategic Selection

It involves choosing between the alternative strategies. This process is strongly influenced by the values of the managers in selecting the strategies.

(b)



McKinsey's 7-S Framework

The Mckinsey Company, a well known management consultancy firm in the United States, towards the end of 1970s was asked to find a solution to this knotty issue. The researchers Peters and Waterman found after examining America's best run companies that the problem in strategy lay in its implementation and structure was only one lever in the hands of management. The other levers were systems, staff, style, skills and superordinate goals. A strategy is usually successful when the other S's in the 7-S framework fit into or support the strategy.

- **Strategy:** A set of decisions and actions aimed at gaining a sustainable competitive advantage.
- **Structure:** The organisation chart and associated information that shows who reports to whom and how tasks are both divided and integrated.
- **Systems:** The flow of activities involved in the daily operation of a business, including its core processes and its support systems.
- **Style:** How managers collectively spend their time and attention and how they use symbolic behaviour. How management acts is more important than what management says.
- **Staff:** How companies develop employees and shape basic values.
- Shared Values: Commonly held beliefs, mindsets and assumptions that shape how an organisation behaves— its corporate culture.
- **Skills:** An organisation's dominant capabilities and competencies.

9. Write a short note on any of the following three questions: [3x4=12]

(a) Formulation of production strategy;
(b) Strategy Implementation.
(c) BCG Matrix;
(d) BPR;

Answer:

(a) Formulation of production strategy:

The following steps are involved in the formulation of production strategy-

(i) Study the overall corporate plan and define the objectives.
(ii) Analyse the present production operations and the present and future environment.
(iii) Review sales- forecast and marketing.
(iv) Make strategic decisions for production.

1. **Study of Corporate Plan and Statement of Objectives:** As in other operating areas, production planning begins with corporate objectives and planning premises. Examination of overall corporate planning not only provides overall directions for manufacturing but also answers questions about overall economic, industrial, market and company factors which will limit and otherwise affect the production planning.
2. **Analysis of the Present Production Operations and the Environmental Forces:** The production manager should analyse the current manufacturing operations arid the present and future environmental trends to determine the company's manufacturing strengths and weaknesses and to isolate environmental factors such as the manpower supply and new process and equipment developments, which significantly affect manufacturing operations. During this phase of manufacturing planning, the planner examines the premises or factors that affect the manufacturing operations specifically.
3. **Review of Sales Forecast and Marketing Mix:** Since planning in other areas affects manufacturing plans, the planner should examine the plans in these areas. Sales goals are the basis upon which specific operating plans for manufacturing are built.
4. **Making Strategic Decisions:** Keeping in mind the overall corporate business mix, present production operations, environmental forces, sales forecast and marketing mix, the production manager has to decide about the extent of manufacturing activity, choice of manufacturing process, capacity machines and equipment to be used, and physical facilities.

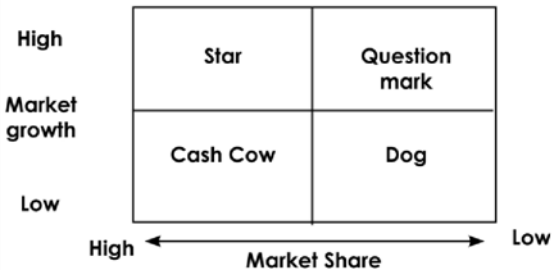
(b) **Strategy Implementation:** Strategy implementation is a critical issue. Strategies remain useless unless they are effectively implemented. Strategy implementation requires a suitable organizational structure to translate the strategies into concrete action plans. The successful implementation of Strategy requires an effective organization structure. Organizational structure means the framework in which the organization defines how tasks are divided, resources are deployed and departments are co-ordinated. The choice of structure appears contingent on the strategy of the firm. No single structure is appropriate for implementing strategies. The principal task of the organization to choose a suitable structure so that the various elements of an organization fit together and make logical sense.

There are several types of organizational structure:

(1) Functional Structure
(2) Geographic Structure
(3) Matrix Structure
(4) Hybrid Structure

In today's world information technology is playing a very important role in strategic implementation. It is helping organisations to cost effectively develop output and behaviour controls. These in turn is helping strategic managers with better information in many aspects and respond appropriately.

(c) **BCG Matrix:** The Boston Consulting Group (BCG)'s matrix analyses products and businesses by market share and market growth.'



This growth/share matrix for the classification of products into cash cows, dogs, rising stars and question marks is known as the Boston classification for product-market strategy.

(i) Stars are products with a high share of a high growth market. In the short term, these require capital expenditure, in excess of the cash they generate, in order to maintain their market position, but promise high returns in the future.

(ii) In due course, however, stars will become cash cows, with a high share of a lowgrowth market. Cash cows need very little capital expenditure and generate high levels of cash income. The important strategic feature of cash cows is that they are already generating high cash returns, which can be used to finance the stars.

(iii) Question marks are products in a high-growth market, but where they have a low market share. A decision needs to be taken about whether the products justify considerable capital expenditure in the hope of increasing their market share, or whether they should be allowed to die quietly as they are squeezed out of the expanding market by rival products. Because considerable expenditure would be needed to turn a question mark into a star by building up market share, question marks will usually be poor cash generators and show a negative cash flow.

(iv) Dogs are products with a low share of a low growth market. They may be ex-cash cows that have now fallen on hard times. Dogs should be allowed to die, or should be killed off. Although they will show only a modest net cash outflow, or even a modest net cash inflow, they are cash traps which tie up funds and provide a poor return, on investment, and not enough to achieve the organisation's target rate of return.

(d) **BPR:** Business process re-engineering (BPR) is a business management strategy, originally pioneered in the early 1990s, focusing on the analysis and design of workflows and processes within an organization. BPR aimed to help organizations fundamentally rethink how they do their work in order to dramatically improve customer service, cut operational costs, and become world-class competitors. In the mid-1990s, as many as 60% of the Fortune 500 companies claimed to either have initiated reengineering efforts, or to have plans to do so.

BPR seeks to help companies radically restructure their organizations by focusing on the ground-up design of their business processes. According to Davenport (1990) a business process is a set of logically related tasks performed to achieve a defined business outcome. Re-engineering emphasized a holistic focus on business objectives and how processes related to them, encouraging full-scale recreation of processes rather than iterative optimization of sub-processes.

Business process re-engineering is also known as business process redesign, business transformation, or business process change management.

The globalization of the economy and the liberalization of the trade markets have formulated new conditions in the market place which are characterized by instability and intensive competition in the business environment. Competition is continuously increasing with respect to price, quality and selection, service and promptness of delivery. Removal of barriers, international cooperation, technological innovations cause competition to intensify. All these changes impose the need for organizational transformation, where the entire processes, organization climate and organization structure are changed. Hammer and Champy provide the following definitions:

Re-engineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance such as cost, quality, service and speed.

Process is a structured, measured set of activities designed to produce a specified output for a particular customer or market. It implies a strong emphasis on how work is done within an organization. ― (Davenport 1993).

Each process is composed of related steps or activities that use people, information, and other resources to create value for customers as it is illustrated in the following example.

Principle of BPR

BPR is achieving dramatic performance improvements through radical change in organizational processes, re-architecting of business and management processes. Redesign, retooling and re-orchestrating form the key components of BPR that are essential for an organization to focus on the outcome that it needs to achieve.