INTERMEDIATE EXAMINATION **SET 1**

MODEL ANSWERS **TERM – JUNE 2025**

PAPER – 9 **SYLLABUS 2022**

OPERATIONS MANAGEMENT AND STRATEGIC MANAGEMENT

Time Allowed: 3 Hours **Full Marks: 100**

The figures in the margin on the right side indicate full marks.

SECTION – A (Compulsory)

1. Choose the correct option: **[15 × 2 = 30]**

i. Operations management is applicable:

a. Mostly to service sector
b. Mostly to manufacturing sector
c. To manufacture and service sector
d. To services exclusively

ii. _____ decision is a systematic process of determining a geographic site for a firm's operations:

a. Plant location
b. Plant layout
c. Product layout
d. None of these

iii. Which one of the following does not fall under qualitative forecasting method?

a. Market research
b. Life cycle analogy
c. Moving average method
d. Delphi method

iv. The starting point of Production cycle is:

a. Product design
b. Production Planning
c. Routing
d. Market research

v. Linear Programming is a technique used for determining:

a. Production Programme
b. Plant Layout
c. Product Mix
d. Manufacturing sequence

vi. Work study comprises following main techniques:

a. Method study & work measurement
b. Method study & time study
c. Time study & work measurement
d. Method study & job evaluation.

vii. **A tool to measure effective use of resources and usually expressed as the ratio of output to input ratio is known as:**
- a. **Production ratio**
- b. **Productivity**
- c. **Reliability**
- d. **Operations ratio**

viii. **The method used in scheduling a project is: -**
- a. **A schedule of breakdown of orders**
- b. **Outline Master Programme**
- c. **PERT & CPM**
- d. **Schedule for large and integrated work**

ix. **Preventive maintenance is useful in reducing:**
- a. **Inspection Cost**
- b. **Shutdown Cost**
- c. **Cost of pre- mature replacement**
- d. **Set-up cost of machine**

x. **Blue Ocean Strategy suggests companies should focus on creating what instead of competing in existing market spaces?**
- a. **Brand loyalty**
- b. **Customer satisfaction**
- c. **Market differentiation**
- d. **New market spaces**

xi. **How does Porter's Value Chain framework help in strategic management?**
- a. **By analyzing macroeconomic factors impacting the industry**
- b. **By identifying areas where the company can gain a competitive advantage through cost leadership or differentiation**
- c. **By focusing solely on financial performance metrics**
- d. **By monitoring customer satisfaction levels**

xii. **Absolute cost advantages arise from:**
- a. **superior production operations and processes**
- b. **control of particular inputs required for production**
- c. **access to cheaper funds**
- d. **all of the above**

xiii. Agency theory primarily deals with the relationship between:

a. Businesses and customers
b. Shareholders and stakeholders
c. Principals and agents
d. Employees and employers

xiv. This test is a catch-all category, indicating that the structure must fit legal, stakeholder, trade union or similar constraint:

a. The Feasibility Test
b. The People Test
c. The Parenting Advantage Test
d. The Specialised Cultures Test

xv. Forecasting the weather is an example of-

a. Narrow AI
b. General AI/human-level
c. Super AI
d. Deep- learning

Answer:

i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv
c	a	c	d	c	a	b	c	b	d	b	d	c	a	a

SECTION – B

(Answer any 5 questions out of 7 questions given. Each question carries 14 marks.)

[5 x 14 = 70]

2. (a) Define the scope of operations management.

(b) Identify some recommended tools, which may increase the productivity of an enterprise.

[7 + 7 = 14]

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:

i. Location of facilities.
ii. Plant layouts and Material Handling.
iii. Product Design.

iv. Process Design.
v. Production Planning and Control.
vi. Quality Control.
vii. Materials Management.
viii. Maintenance Management.

(b) The productivity of an enterprise can be improved by improving the performance of various inputs and other factors affecting productivity. For this purpose, use of following tools can be recommended.

I. Human Aspects: Under this, cooperation of workers is sought in the following ways:

(i) More worker's participation in management or in decision making through joint consultation.
(ii) Improving communication services.
(iii) Improving mutual trust and cooperation through improved job procedures, better training of employees, more worker's incentives by implementing various incentive schemes, and labour welfare programmes.
(iv) Better planning of work, more effective management, more democracy in administration, improved human relations and selection and training of personnel at various levels of management are some human efforts from the side of management in order to improve the productivity.

II. Supply of Inputs:

(i) Improvement in the nature and quality of raw materials and their supplies to the work.
(ii) Proper provision of plant, equipment and their maintenance.
(iii) Introduction of more and more machines and equipment in place of physical work.
(iv) Fuller utilisation of manpower and efficiency or capacity of plant and equipment employed.

III. Technological Aspects:

Certain methodological and technological developments are also necessary to improve the productivity of the concern

These are;

(i) Work, time and motion studies to determine better ways and means of doing a job.
(ii) Implementing various simplification, specialisation and standardisation programmes.
(iii) Applying control techniques comprising of production, planning and control, cost control and quality control techniques.
(iv) Improving layout of plants, shops and machine tools, and material handling and internal transportation system.
(v) Improving inspection techniques so as to minimise the wastage and defective work.

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3. (a) Discuss briefly the concept of "Preventive maintenance" and its advantages.

(b) M/s. Tubes Ltd. are the manufacturers of picture tubes of T.V. The following are the details of their operation during 2001:

Average monthly market demand	**2,000 tubes**
Ordering cost	**₹100 per order**
Inventory carrying cost	**20% per annum**
Cost of tubes	**₹500 per tube**
Normal usage	**100 tubes per week**
Minimum usage	**50 tubes per week**
Maximum usage	**200 tubes per week**
Lead time to supply	**6 – 8 weeks**

Calculate the following:

(1) Economic order quantity. If the supplier is willing to supply quarterly 1,500 units at a discount of 5%, is it worth accepting?

(2) Maximum level of stock.

(3) Minimum level of stock.

(4) Re-order level of stock. **[7 + 7 = 14]**

Answer:

(a) A system of scheduled, planned or preventive maintenance tries to minimize the problems of breakdown maintenance. It locates weak parts in all equipment's, provides them regular inspection and minor repairs thereby reducing the danger of unanticipated breakdowns. The underlying principle of preventive maintenance is that prevention is better than cure. It involves periodic inspection of equipment and machinery to uncover conditions that lead to production breakdown and harmful depreciation. The system of preventive maintenance varies from plant to plant depending on the requirement of the plant. Any company, adopting the preventive maintenance should keep the record of failure of various components and equipment, which help the maintenance department to statistically analyze the failure pattern and replace the item before it fails, so that the breakdown can be eliminated. This reduces the unanticipated breakdowns, increases the availability of the equipment for production purpose, maintain optimum productive efficiency of equipment and machinery reduces the work content of maintenance job, increases productivity and safety of life of worker. Production department or maintenance department depending on the size of the plant generally takes up preventive maintenance work. As the preventive maintenance is a costly affair, it is better to maintain records of cost (both labour, materials used and spares used) and a valuation of the work done by the department will show us what benefits are derived from preventive maintenance. The analytical approach to evaluate the work done by preventive maintenance is:

(i) (Inspections incomplete) / (Inspections scheduled) × 100 should be less than 10%

(ii) (Hours worked for maintenance) / (Scheduled hours) × 100 = Performance of the department.

(iii) Down time to be given as a ratio of the available hours and to be compared against a standard to be worked out for each company or against a figure of the past. The ratio is given as: = Down time in hours/ Available hours (where Available Hours = working days × hours per day × number of machines). Here down time is the total time of stoppage of the machine for scheduled and unscheduled maintenance work.

(iv) Frequency of break downs = (Number of break downs) / (Available machine hours)

(v) Effectiveness of planning = (Labour hours on scheduled maintenance) / (Total labour hours spent on maintenance). OR
(Down time due to scheduled maintenance)/(Down time due to total maintenance work)

Advantages of preventive maintenance:

(i) Reduced breakdowns and downtime,
(ii) Greater safety to workers,
(iii) Fewer large scale repairs,
(iv) Less standby or reserve equipment or spares,
(v) Lower unit cost of the product manufactured,
(vi) Better product quality,
(vii) Increased equipments life and
(viii) Better industrial relations.

(b) **(**1) Economic Order Quantity:

Annual usage of tubes (A) = Normal usage per week × 52 weeks = 100 tubes × 52 weeks = 5,200 tubes.

Ordering cost per order (S) = ₹100.

Inventory carrying cost per unit per annum (C) = 20% of ₹500 = ₹100

EOQ = $\sqrt{\frac{2AS}{C}} = \sqrt{\frac{2 \times 5{,}200\ \boldsymbol{units} \times 100}{100}}$ = 102 units (approx.).

(A) Evaluation of order size of 1,500 units at 5% discount

No. of orders = 5,200 units/1,500 units = 3.46 or 4 (in case of a fraction, the next whole number is considered).

Ordering cost (No. of order per year at ₹100 per order)	₹400
Carrying cost of average inventory:	
$= \frac{1{,}500\ \boldsymbol{units}}{2} \times ₹(\boldsymbol{500\ less\ 5}\%) \times \frac{20}{100} =$	₹71,250
Total annual cost (excluding item cost)	₹71,650

(B) Annual cost if EOQ (102 units) is adopted:

Ordering cost: 5,200 ÷ 102 or 51 orders per year at ₹100 per order	₹5,100
Carrying cost of average inventory $= \frac{102\ \boldsymbol{units}}{2} \times$ ₹500 $\times \frac{20}{100}$	₹5,100
Total annual cost (excluding item cost)	₹10,200

Increase in annual cost by adopting (A) above: ₹(71,650 – 10,200) = ₹61,450.
Amount of quantity discount: 5% × ₹500 × 5,200, units = ₹1,30,000.
Since the amount of quantity discount (₹1,30,000) is more than the increase in total annual cost (₹61,450), it is advisable to accept the offer. This will result in a saving of ₹(1,30,000 - 61,450) or ₹68,550 p.a. in inventory cost.

(2) Maximum Level of Stock:
= Re-order level + Re-order quantity – (Minimum usage × Minimum delivery period)
= 1,600 units + 102 units – (50 units × 6 weeks) = 1,402 units.
[Assume that the Reorder quantity is supplied as soon as the Reorder level is reached]

(3) Minimum Level of Stock:
= Re-order level – (Normal usage × Normal delivery period) [see Note]
= 1,600 units – (100 units × 7 weeks)
= 900 units.
Note: Normal delivery period is taken to be the average delivery period.

(4) Re-order Level of Stock:
= Maximum usage × Maximum delivery period
= 200 units × 8 weeks
= 1,600 units

4. (a) Calculate the initial feasible solution by north west corner method.

	W_1	W_2	W_3	W_4	Supplies
F_1	10	12	14	18	210
F_2	25	19	21	30	330
F_3	18	16	11	23	430
F_4	28	34	17	15	290
Demand	270	390	320	280	

W_j = ware house, F_i = factory cell entries are unit cost in ₹.

(b) An automobile production line turns out about 100 cars a day, but deviations occur owing to many causes. The production is more accurately described by the probability distribution given below:

Production/Day	Prob.	Production/Day	Prob.
95	0.03	101	0.15
96	0.05	102	0.10
97	0.07	103	0.07
98	0.10	104	0.05
99	0.15	105	0.03
100	0.20		

		Total	1.00

Finished cars are transported across the bay, at the end of each day, by ferry. If the ferry has space for only 101 cars, calculate the average number of cars waiting to be shipped and the average number of empty space on the boat? Use following Random Numbers to simulate the data provided above - 20, 63, 46, 16, 45, 41, 44, 66, 87, 26, 78, 40, 29, 92, 21. [7 + 7=14]

Answer:

(a) (i) The initial feasible solution by using the method north west corner:

	W_1	W_2	W_3	W_4	Supplies
F_1	10 210	12	14	18	~~210~~ 0
F_2	25 60	19 270	21	30	~~330~~ 0
F_3	18	16 120	11 310	23	~~430~~
F_4	28	34	17 10	15 280	~~290~~ 280
Demand	~~270~~ 60	~~390~~ 120	~~320~~ 10	~~280~~ 0	1,260

$F_1 – W_1 = (10×210) =$ ₹2100
$F_2 – W_1 = (25×60) =$ ₹1500
$F_2 – W_2 = (19×270) =$ ₹5130
$F_3 – W_2 = (16×120) =$ ₹1920
$F_3 – W_3 = (11×310) =$ ₹3410
$F_4 – W_3 = (17× 10) =$ ₹170
$F_4 – W_4 = (15×280) =$ ₹4200
Total cost ₹18,430

(b) Simulation of data of an Automobile Production line

Production/day	Probability	Cumulative Probability	Random No. Range
95	0.03	0.03	00-02
96	0.05	0.08	03-07
97	0.07	0.15	08-14
98	0.10	0.25	15-24

99	0.15	0.40	25-39
100	0.20	0.60	40-59
101	0.15	0.75	60-74
102	0.10	0.85	75-84
103	0.07	0.92	85-91
104	0.05	0.97	92-96
105	0.03	1.00	97-99
	1.00		

Simulated data

Day	Random No.	Production	No.of cars waiting to be shipped	No. of empty space on the boat
1	20	98	-	3
2	63	101	-	-
3	46	100	-	1
4	16	98	-	3
5	45	100	-	1
6	41	100	-	1
7	44	100	-	1
8	66	101	-	-
9	87	103	2	-
10	26	99	-	2
11	78	102	1	-
12	40	100	-	1
13	29	99	-	2
14	92	104	3	-
15	21	98	-	3
Total			6	18

Average no. of cars waiting to be shipped = 6/15 = 0.40 per day

Average no. of empty space on the boat = 18/15 = 1.2 per day

5. (a) A firm is using a machine whose purchase price is ₹15,000. The installation charges amount to ₹3,500 and the machine has a scrap value of only ₹1,500 because the firm has a monopoly of this type of work. The maintenance cost in various years is given in the following table:

Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Maintenance Cost (₹)	**260**	**760**	**1100**	**1600**	**2200**	**3000**	**4100**	**4900**	**6100**

Calculate after how many years should the machine be replaced on economic considerations, assuming that the machine replacement can be done only at the year end.

(b) Project with the following data is to be implemented. Prepare 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 of money and the day on which it occurs in the above schedule. **[7+7=14]**

Answer:

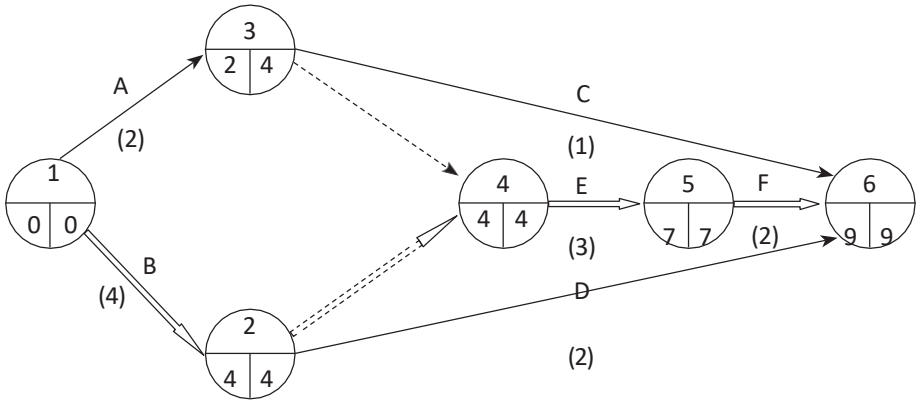
(a) Cost of machine, C = ₹15,000 + ₹3,500 = ₹18,500

Scrap value, S = ₹1,500.

Year	Maintenance Cost (₹)	Cumulative Maintenance Cost (₹)	Cost of Machine – Scrap Value (₹)	Total Cost (₹)	Annual Cost (₹)
(i)	(ii)	(iii)	(iv)	(v)= (iii)+(iv)	(vi)=(v)/n
1	260	260	17,000	17,260	17,260
2	760	1,020	17,000	18,020	9,010
3	1,100	2,120	17,000	19,120	6,373
4	1,600	3,720	17,000	20,720	5,180
5	2,200	5,920	17,000	22,920	4,584
6	3,000	8,920	17,000	25,920	4,320
7	4,100	13,020	17,000	30,020	4,288*
8	4,900	17,920	17,000	34,920	4,365
9	6,100	24,020	17,000	41,020	4,557

Lowest average cost is ₹4,288 approx., which corresponds to n = 7 in above table. Thus machine needs to be replaced every 7th year.

(b) (1)



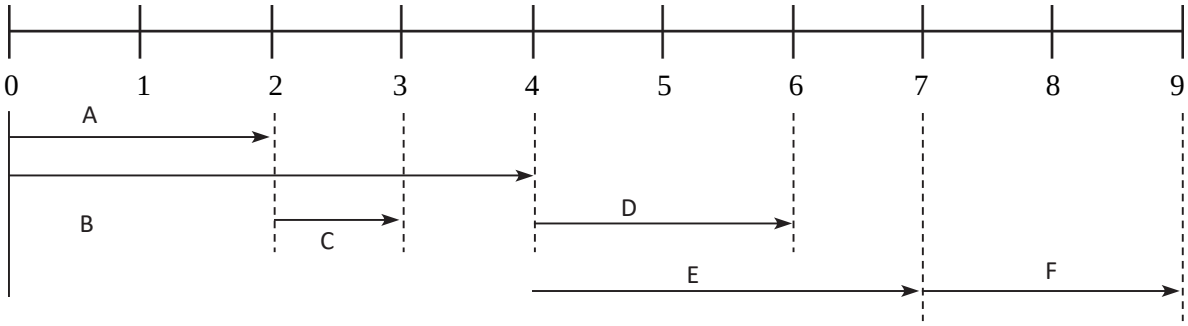
Critical Path B – Dummy$_2$ – E – F

Minimum duration of the project = 9 days

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	2	3	8	9	6	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

(2) Gantt Chart for Early Start Schedule



(3) Peak requirement of money will occur during simultaneous occurrence of Activities.

From the Network diagram above, it can be said that the following Activities need to occur simultaneously.

(i) A & B — Either during the days 1 & 2 or during the days 3 & 4 of Project Duration, which will require (₹50 for A + ₹50 for B) per day i.e. ₹100 per day

(ii) B & C — Either on day 3 or on day 4 of the project and it will require (₹50 for B + ₹40 for C) per day i.e. ₹90 per day

(iii) C, D & E — During day no. 5 or day no. 6 and cost is ₹(40 + 100 + 100) = ₹240 per day
(iv) C, D & F — During day no. 8 or day no. 9 and cost is ₹(40 + 100 + 60) = ₹200 per day
(v) D & E — During day nos. 5 & 6 or 6 & 7. Cost is ₹(100 + 100) = ₹200 per day
(vi) D & F — During day nos. 8 & 9. Cost = ₹(100 + 60) = ₹160 per day
(vii) C & E — Either on day no. 5 or 6 or 7. Cost to be incurred = ₹(40 + 100) = ₹140 per day

From above we can say that C can occur by using either of the options (ii), (iii), (iv) & (vii). As cost for option (ii) is least one should decide for it at a cost of ₹90 per day. Similarly, D can occur by either of the option (iii), (iv), (v) & (vi) above. As (vi) is the least cost option of all these, one should go for it at a cost of ₹160 per day.

Hence the Project Activities should follow the sequence given below: -

(a) A & B to start at their Earliest Time (i.e. 0) and occur simultaneously till day 2 @ ₹100 per day
(b) C can start either at its Earliest Time (i.e. 2) or on day 3 and occur simultaneously with B either on day 3 or 4 @ ₹90 per day
(c) E being Critical Activities must have to start at its earliest time (i.e. 4) and occur @ ₹100 per day
(d) F being Critical Activity has to start on Earliest Time (i.e. 7) and will occur concurrently with D is the during days 8 & 9 @ ₹160 per day.

Hence peak requirement of money is ₹160 per day and it will occur at days 8 and 9.

6. (a) Demonstrate the details regarding the SMART goal frame work to create organisational objectives.

(b) Explain how digital transformation of a business helps in achieving competitive advantage and also describe some common elements of digital strategy? [7+7=14]

Answer:

(a) To create effective organisational objectives, make sure they're specific, measurable, attainable, relevant and time-based. These guidelines are often abbreviated using the acronym SMART. Here are more details regarding the SMART goal framework:

i. Specific: Specific goal provides the employee with the exact result needed for their performance to be successful. A clear objective can optimize productivity and effectiveness.
ii. Measurable: Successful goals can usually be measured using metrics that determine an employee's success or progress. A quota, for example, is one way to measure an employee's success.
iii. Attainable: Effective goals are often those which are ambitious and also possible to achieve. Consider if and how an employee can attain their objectives with the tools and resources available to them within a specified time frame.

iv. Relevant: A relevant objective contributes to the larger goals of a company. Consider the upward impact of employees achieving certain goals, like how they tie to bigger company strategies like growth.

v. Time Based: Set realistic timelines for employees to complete their tasks. If a task is ongoing, you might consider your next review as a deadline for achieving objectives.

SMART goals help clarify responsibilities and ensure both manager and employee knows what to expect. They can help develop employees' skills and move goals forward toward larger, higher-level goals.

(b)

i. When an organisation embarks on a transformation journey, embracing digital technologies, two of their main objectives are to out manoeuvre competitors and attain sustainable competitive advantages or growth and prosperity. When 'trans-created' solutions are offered by an entity to solve customers' problems, meet their latent demands, and/or simplify operating processes, that business entity starts operating in a strategically created 'blue ocean' market space in that traditional sector. The phrase 'trans-created' means creation of a new versatile product and/or related business model transforming a traditional one run by legacy systems.

ii. Innovative applications of digital technologies help them to implement the strategic plan and enjoy first mover's advantages. Such interplays of strategies and technologies can be termed as 'innovation', which is a combination of three tasks. viz., innovation, invention, and creation driven by distinctively formulated strategies.

iii. The objective is to generate and share values. Here value also includes value for time, quality, greener technology, and minimised risks, in addition to organisations' profit measurable in monetary terms.

iv. According to Bharadwaj et.al., the emerging idea on digital business strategies may be categorized under four major groups viz, scope, scale, agility, and sources of value creation.

v. These would be the influencing factors for scoping digital strategies for those business entities which want to leverage digital technologies for value creation by integration of operating business processes.

vi. The triggering event for the entire process of interplay between strategy and digital technologies is identification of the emergent need(s), problem(s) and risks of customers, solution for which was a long persisting latent demand of governmental and/ or societal ecosystem.

vii. Such a process of identifying an opportunity for an entirely new business and revenue model can also be prompted by digital transformation while business strategies are infused into technology and vice versa.

viii. A business entity generates loads of data while conducting transactions at the physical marketplace. Particularly a bank generates billions of transactional data conducted with millions of customers. Such data can further be collated for transaction types, time duration, repeats for errors, geographical regions, age group, gender, range values, language, time of the day, etc. once captured.

ix. Cognitive tools from the stables of Artificial Intelligence, Machine Learning and Big Data Analytics, can now be used for further processing of such data.

x. When done, the processed information can enable Chief Experience Officers (CXOs) to draw many inferences in the context of business that has been done and/or can be done.

xi. Further reflection on such information can trigger innovative thoughts to craft out new business designs that can be offered to customers through digital solutions, mode, and media. These can then be taken to the physical customers' marketplace for implementation and revenue generation. This is called the PDP Loop.

Therefore, the process of interplay starts even before formulation of strategy and/or while formulating the same.

Common elements of Digital Strategy

1. Choose a Leader -This is arguably the most important part of creating a digital strategy, but choosing the right person will depend on company culture, structure and priorities. Whether companies place leadership with the CEO or an appointed Chief Digital Officer, the leader's influence will need to match the scope of digital strategy; otherwise, it will be difficult to create the full buy-in from each department necessary to make effective changes.
2. Attack vs. Defend- McKinsey & Company emphasizes that companies would do well to categorize their potential threats and opportunities in digital business, then compare these against their own purpose. This clarifies whether a proactive or defensive stance needs to guide new initiatives.
3. Take a Measured Approach - Digital strategy often incorporates a process for assessing whether new technology will really complement or grow the current business. If you fear that your company is already behind on digital, it can be tempting to rush into a project without looking at how it fits your current strategy. By taking a measured approach, you can avoid wasting resources on initiatives that don't align with your business's needs and priorities.
4. Future Proof - The goal of digital transformation is to create an appropriate foundation for digital business. This means creating an organization that can continue to reinvent itself as necessary to keep up with changes in technology and customer expectations. Digital strategy should be visionary enough to carry companies through changes in the digital economy, in a way that continues to bring a digital edge to the business.

7. (a) Discuss how portfolio analysis aids to develop corporate strategy in multiple business corporation. Also analyse the advantages and limitation of portfolio analysis.

(b) Analyse the Characteristics of Business Environment. [7+7=14]

Answer:

(a) One of the most popular aids to developing corporate strategy in multiple business corporations is portfolio analysis. Portfolio analysis is an analytical tool which views a corporation as basket of

portfolio of products or business units to be managed for the best possible returns. Portfolio analysis puts corporate headquarters intothe role of an internal banker. In portfolio analysis top management views its product lines and business units as a series of investments from which it expects a profitable return. A study on 200 largest U.S. corporations made by McKinsey & Company found that companies that actively managed their business portfolios through acquisitions and divestitures created substantially more shareholder value than those companies that passively heldtheir businesses. Given the increasing number of strategic alliances in today's corporations, portfolio analysis is also being used to evaluate the contribution of alliances to corporate and business unit objectives. Two of the most popular portfolio techniques are the BCG Growth-Share Matrix and GE Business Screen.

Objectives of Portfolio Analysis

- to analyse the current mix of business and take investment decisions.
- to develop strategies for adding new businesses in the portfolio thereby inducing growth.
- to decide the business to be retained and the one to be excluded from the portfolio.

Advantages and Limitations of Portfolio Analysis

Portfolio analysis is commonly used in strategy formulation because it offers certain advantages such as

- It encourages top management to evaluate each of the corporation's business individually and to set objectives and allocate resources for each.
- It stimulates the use of externally oriented data to supplement management's judgment.
- It raises the issue of cash-flow availability for use in expansion and growth.
- Its graphic depiction facilitates communication.

Portfolio analysis, however, has some very real limitations that have caused companies to reduce their use of this approach:

- Defining product/market segments is difficult.
- It suggests the use of standard strategies that can miss opportunities or be impractical
- It provides an illusion of scientific rigour, when in reality positions are based on subjectivity.
- Its value-laden terms such as cash cow and dog can lead to self-fulfilling prophecies.

It is not always clear what makes an industry attractive or where a product is in its life cycle.

- Naively following the prescriptions of a portfolio model may actually reduce corporate profits if they are used inappropriately.

(b) Business environment exhibits many characteristics. Some of the important characteristics are as follows:

- Environment is complex: The business environment happens to be very complex as it comprises of a number of factors namely, events, conditions and influences arising from different sources interacting with each other to create entirely new sets of influences. It is indeed difficult to

instantly say what factors constitute a given environment. Environment is a complex phenomenon and it is easier to understand it in segments or compartments rather than grasp in totality.

- Environment is dynamic: The changing nature of environment is a constant. The dynamism of the environment is largely due to large number of factors that continuously influences its character and shape.
- Environment is Multi-faceted: The perception of the observer is very important to determine the shape and character of the environment. Changes in the environment may be perceived differently by different individual. The changes and developments may be considered to be an opportunity to one and a threat to others.
- Environment has a far reaching impact: The impact of environment on an organisation is huge. It critically underpins the growth and profitability of an organisation. Any changes in the environment affect the organisation in more ways than one. The very survival and existence of an organisation is critically dependent on its environment.

8. (a) Explain project-based structure? Discuss its advantages and disadvantages.

(b) Analyse the concept of strategic business unit? [7+7=14]

Answer:

(a) A project-based structure is one where teams are created, undertake the work and are then dissolved. Thiscan be particularly appropriate for organisations that deliver large and expensive goods or services (civil engineering, information systems, films) or those delivering time-limited events (conferences, sporting events or consulting engagements). The organisation structure is a constantly changing collection of project teams created, steered and glued together loosely by a small corporate group. Many organisations use such teams ina more ad hoc way to complement the 'main' structure. For example, taskforces are set up to make progress on new elements of strategy or to provide momentum where the regular structure of the organisation is not effective.

Advantages of Project-based structures

- The project-based structure can be highly flexible, with projects being set up and dissolved as required.
- Accountability and control are good because project teams should have clear tasks to achieve within a defined life.
- Projects can be effective at knowledge exchange as project team members will typically be drawn from different departments within the firm.
- Projects can also draw members internationally and, because project life spans are typically short, project teams may be more willing to work temporarily around the world.

Disadvantages of Project-based structures

- Without strong programme management providing overarching strategic control, organisations are prone to proliferate projects in an ill-coordinated fashion.
- The constant breaking up of project teams can also hinder the accumulation of knowledge over time or within specialisms.

Overall, project-based structures have been growing in importance because of their inherent flexibility. Such flexibility can be vital in a fast-moving world where individual knowledge and competences need to be redeployed and integrated quickly and in novel ways.

Structural choice depends on the strategic challenges the organisation faces. In reality, few organisations adopt a structure that is just like one of the pure structural types discussed above. Structures often blend different types and have to be tailor-made to the particular mix of challenges facing the organisation. Michael Goold and AndrewCampbell provide nine design tests against which to check specific tailor-made structural solutions. The first fourtests stress fit with the key objectives and constraints of the organisation:

- The Market-Advantage Test. This test of fit with market strategy is fundamental, following Alfred Chandler's classic principle that 'structure follows strategy'. For example, if coordination between two steps in a production process is important to market advantage, then they should probably be placed in the same structural unit.
- The Parenting Advantage Test. The structural design should fit the 'parenting' role of the corporate centre. For example, if the corporate centre aims to add value as a synergy manager, then it should design a structurethat places important integrative specialisms, such as marketing or research, at the centre.
- The People Test. The structural design must fit the people available. It is dangerous to switch completely from a functional structure to a multidivisional structure if, as is likely, the organisation lacks managers with competence in running decentralised business units.
- The Feasibility Test. This is a catch-all category, indicating that the structure must fit legal, stakeholder, trade union or similar constraints. For example, after scandals involving biased research, investment banks are nowrequired by financial regulators to separate their research and analysis departments from their deal-making departments. Goold and Campbell then propose five tests based on good general design principles, as follows:
- The Specialised Cultures Test. This test reflects the value of bringing together specialists so that they can develop their expertise in close collaboration with each other. A structure fails if it breaks up important specialist cultures.
- The Difficult Links Test. This test asks whether a proposed structure will set up links between parts of the organisations that are important but bound to be strained. For example, extreme decentralisation to profit- accountable business units is likely to strain relationships with a central research and development department.Unless compensating mechanisms are put in place, this kind of structure is likely to fail.
- The Redundant Hierarchy Test. Any structural design should be checked in case it has too many

layers of management, causing undue blockages and expense. Delayering in response to redundant hierarchies has been an important structural trend in recent years.

- The Accountability Test. This test stresses the importance of clear lines of accountability, ensuring the control and commitment of managers throughout the structure. Because of their dual lines of reporting, matrix structures are often accused of lacking clear accountability.
- The Flexibility Test. In a fast-moving world, an important test is the extent to which a design will allow for change in the future. For instance, divisional domains should be specified broadly enough to allow divisional managers to follow new opportunities as they emerge.
- Goold and Campbell's nine tests provide a rigorous screen for effective structures. But even if the structural designpasses these tests, the structure still needs to be matched to the other strands of the organisation's configuration, itsprocesses and relationships. Each strand will have to reinforce the others.

(b) A strategic business unit (SBU) is a part of an organisation for which there is a distinct external market for goods or services that is different from another SBU. The identification of an organisation's SBUs helps the development ofbusiness level strategies since these may need to vary from one SBU to another. The identification of SBUs does,however, raise some important areas of concern such as

- The bases of competitive strategy may need to differ by markets (or market segment) the SBUs considered need to reflect this. However, potentially, managers may subdivide markets into many segments based on different criteria. The result could be unmanageable in terms of identifying compatible bases of competitive strategy. So sensible judgements need to be made about which SBUs are most useful for strategy making purposes.
- Similarly, too many SBUs can create excessive complexity in developing corporate-level strategy.
- An SBU is an organisational unit for strategy-making purposes. An organisation may not actually be structured on the basis of SBUs, so consideration needs to be given to the relationship of SBUs and organisational design.

There are external and internal criteria that can help in identifying appropriate SBUs:

- Market-based criteria. Different parts of an organisation might be regarded as the same SBU if they are targeting the same customer types, through the same sorts of channels and facing similar competitors. For example, a 'unit' tailoring products or services to specific local needs are a different SBU from one that offers standardised products or services globally. So are units that offer the same products to a customer group through significantly different channels (for example, retailing to consumers versus direct selling via the Internet).
- Capabilities-based criteria. Parts of an organisation should only be regarded as the same SBU if they have similar strategic capabilities. So for a food manufacturer branded goods should probably be considered a different SBU from retail 'own-brand' goods even though they are selling to the same end customers throughthe same channels.