



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 alternative: [15 x 2 = 30]
- (i) The lead-time is the time:
- To place orders for materials.
 - Time of receiving materials.
 - Time between receipt of material and using materials.
 - Time between placing the order and receiving the materials.
- (ii) Most suitable layout for Continuous production is:
- Line layout.
 - Process Layout.
 - Group technology.
 - Matrix layout.
- (iii) A department store has one storekeeper. The average number of customers handled by the storekeeper is 30 per hour. If the customer arrives at the store at mean rate of 25 per hour, what will be the average number of customers in the system:
- 2 customers.
 - 3 customers.
 - 5 customers.
 - None of the above.
- (iv) Cost reduction can be achieved through:
- Work sampling.
 - Value analysis.
 - Quality assurance.
 - Supply chain management.
- (v) Which one of the following standards is associated with the "Quality Assurance" in Final Inspection Test"?
- ISO 9001.
 - ISO 9002.
 - ISO 9003.
 - ISO 9004.
- (vi) K Ltd. is the manufacturer of bearings. The inventory holding cost per bearing per month is 20 paise. If its economic batch quantity (EBQ) is 4000 units (bearings) then the minimum inventory holding cost at optimum run size will be:



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- a. ₹ 4320
 - b. ₹ 4510
 - c. ₹ 4800
 - d. None of the above
- (vii) Mckinsey's 7-s framework consists of:
- a. Structure, Strategy, Software, Skills, Styles, Staff and Supervision.
 - b. Structure, Strategy, Systems, Skills, Styles, Syndication and Shared values.
 - c. Structure, Strategy, Systems, Skills, Steering power, Styles and Shared values.
 - d. Structure, Strategy, Staff, Skills, Systems, Shared values, Style.
- (viii) Production control concerned with:
- a. Passive assessment of plant performance
 - b. Strict control on labours
 - c. Good materials management
 - d. Good product design.
- (ix) Business Process Re-engineering is:
- a. eliminating loss-making process.
 - b. redesigning operational processes.
 - c. redesigning the product and services.
 - d. recruiting the process engineers.
- (x) Digital transformation drives change in:
- a. customer experience.
 - b. operational processes.
 - c. business models.
 - d. all of the above.
- (xi) Forecasting the weather is an example of:
- a. Narrow AI.
 - b. General AI/human-level.
 - c. Super AI.
 - d. Deep- learning.
- (xii) $(\text{Total station time/cycle time} \times \text{Number of work stations}) \times 100$ is known as:
- a. Line efficiency.
 - b. Line smoothness.
 - c. Balance delay of line.
 - d. Station efficiency.
- (xiii) 'Z' chart is a chart used in:
- a. Programme control.
 - b. Job control.
 - c. Cost control.
 - d. Quality control.

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- (xiv) Organisation culture is:
- appreciation for the arts in the organisation.
 - ability of the organization to act in a responsible manner to its employees.
 - combination of (A) and (B) above.
 - deeper level of basic assumptions and beliefs that are shared by the members of the firm.
- (xv) Blue Ocean Strategy is concerned with:
- moving into new market with new products.
 - creating a new market places where there is no competition.
 - developments of products and markets in order to ensure survival.
 - making the product unique in terms of attributes.

Answer:

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

Working notes:

$$(iii) \quad (c) \quad \rightarrow \frac{\lambda}{\mu - \lambda} = \frac{25}{30 - 25} = 5$$

$$(iv) \quad (c) \quad \rightarrow \text{Minimum inventory holding cost} = \text{Average inventory} \times \text{Annual carrying cost of one unit of inventory} = (4000 \div 2) \times 0.20 \times 12 = 4800$$

SECTION – B

(Answer any five questions out of seven questions given. Each question carries 14 Marks.)

2. (a) Explain some recent trends in production and operation management.
- (b) Summarize the factors which are affecting to design a Product in Modern Production system. [7 + 7 = 14]

Answer:

- (a) Recent trends in production and operations management relate to global competition and the impact it has on manufacturing firms. Some of the recent trends are:
- Global Market Place: Globalisation of business has compelled many manufacturing firms to have operations in many countries where they have certain economic advantage. This has resulted in a steep increase in the level of competition among manufacturing firms throughout the world.
 - Production/Operations Strategy: More and more firms are recognising the importance of production/ operations strategy for the overall success of their business and the necessity for relating it to their overall business strategy.

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3. Total Quality Management (TQM): TQM approach has been adopted by many firms to achieve customer satisfaction by a never-ending quest for improving the quality of goods and services.
 4. Flexibility: The ability to adapt quickly to changes in volume of demand, in the product mix demanded, and in product design or in delivery schedules, has become a major competitive strategy and a competitive advantage to the firms. This is sometimes called as agile manufacturing.
 5. Time Reduction: Reduction of manufacturing cycle time and speed to market for a new product provide competitive edge to a firm over other firms. When companies can provide products at the same price and quality, quicker delivery (short lead times) provide one firm competitive edge over the other.
 6. Technology: Advances in technology have led to a vast array of new products, new processes and new materials and components. Automation, computerisation, information and communication technologies have revolutionised the way companies operate. Technological changes in products and processes can have great impact on competitiveness and quality, if the advanced technology is carefully integrated into the existing system.
 7. Worker Involvement: The recent trend is to assign responsibility for decision making and problem solving to the lower levels in the organisation. This is known as employee involvement and empowerment. Examples of worker involvement are quality circles and use of work teams or quality improvement teams.
 8. Re-engineering: This involves drastic measures or break-through improvements to improve the performance of a firm. It involves the concept of clean-slate approach or starting from scratch in redesigning the business processes.
 9. Environmental Issues: Today's production managers are concerned more and more with pollution control and waste disposal which are key issues in protection of environment and social responsibility. There is increasing emphasis on reducing waste, recycling waste, using less-toxic chemicals and using biodegradable materials for packaging.
 10. Corporate Downsizing (or Right Sizing): Downsizing or right sizing has been forced on firms to shed their obesity. This has become necessary due to competition, lowering productivity, need for improved profit and for higher dividend payment to shareholders.
 11. Supply-Chain Management: Management of supply-chain, from suppliers to final customers reduces the cost of transportation, warehousing and distribution throughout the supply chain.
 12. Lean Production: Production systems have become lean production systems which use minimal amounts of resources to produce a high volume of high quality goods with some variety. These systems use flexible manufacturing systems and multi-skilled workforce to have advantages of both mass production and job production (or craft production).
- (b) Factors affecting the Product Design: -
- (i) True understanding of the stated and unstated needs and requirements of the end customers. Sometimes it is difficult to get an idea of the unstated or latent needs. Modern day designers most often rely on social media analytics for discovering the latent needs.
 - (ii) User-friendliness of the products attracts people from various demographic backgrounds.
 - (iii) Striking a balance among form, function/features and cost. In other words, an appropriate balance between economies of scale and economies of scope is required.

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- (iv) Quality of raw materials or basic ingredients
- (v) Selection/design of the processes and layouts
- (vi) The quality and conditions of the machines/instruments used in the design process
- (vii) Capability and maturity of the processes
- (viii) Skilled resource persons
- (ix) Effect on the existing products
- (x) Presentation (e.g., packaging) of the products

3. (a) Develop an analytical approach to evaluate the work done by preventive maintenance.

(b) An investigation into the use of scooters in 5 towns has resulted in the following data:
Population in town

Population in town (in lakhs)	(X)	4	6	7	10	13
No. of scooters	(Y)	4,400	6,600	5,700	8,000	10,300

Fit a linear regression of Y on X and estimate the number of scooters to be found in a town with a population of 16 lakhs. [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 equipments, 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) $(\text{Inspections incomplete}) / (\text{Inspections scheduled}) \times 100$ should be less than 10%
- (ii) $(\text{Hours worked for maintenance}) / (\text{Scheduled hours}) \times 100 = \text{Performance of the department.}$
- (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:

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= 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)

(b)

Computation of trend values

Population (in lakhs)(X)	No. of scooters demanded(Y)	Squares of population(X ²)	Product of population and No. of scooters demanded(XY)
4	4,400	16	17,600
6	6,600	36	39,600
7	5,700	49	39,900
10	8,000	100	80,000
13	10,300	169	1,33,900
$\sum X = 40$	$\sum Y = 35,000$	$\sum X^2 = 370$	$\sum XY = 3,11,000$

Regression equation of Y on X

$$Y = a + bX$$

To find the values of a and b we will have to solve the following two equations

$$\sum Y = na + b\sum X \quad (i)$$

$$\sum XY = a\sum X + b\sum X^2 \quad (ii)$$

By putting the values, we get

$$35,000 = 5a + 40b \quad (iii)$$

$$3,11,000 = 40a + 370b \quad (iv)$$

By multiplying equation no. (iii) by 8 putting as equation (v) we get,

$$2,80,000 = 40a + 320b \quad (v)$$

By subtracting equation (v) from equation (iv), we get

$$31,000 = 50b$$

$$\text{or, } 50b = 31,000$$

$$\text{or, } b = 31,000/50 = 620$$

By substituting the value of b in equation no. (iii), we get

$$35,000 = 5a + 40b$$

$$\text{Or } 35,000 = 5a + 40 \times 620$$

$$\text{Or } 35,000 = 5a + 24,800$$

$$\text{Or } 10,200 = 5a$$

$$\text{Or } a = 10200/5 = 2040$$



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Now putting the values of a and b the required regression equation of Y on X, is

$$Y = a + bX$$

or, $Y = 2040 + 620 X$

When $X = 16$ lakhs then $Y = 2040 + 620 (16)$

or $Y = 2040 + 9920$ or $Y = 11,960$

Hence, the expected demand of scooters for a town with a population of 16 lakhs will be 11,960 scooters.

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 days of work remaining	2	4	7	6	5	3

Sequence the jobs according to priority established by

- (a) least slack rule
 (b) critical ratio rule.
- (b) As a tool service centre the arrival rate is two per hour and the service potential is three per hour. Simple queue conditions exist.

The hourly wage paid to the attendant at the service centre is ₹1.50 per hour and the hourly cost of a machinist away from his work is ₹ 4.

Calculate:

- The average number of machinists being served or waiting to be served at any given time.
- The average time a machinist spends waiting for service.
- The total cost of operating the system for an eight – hour day.
- The cost of the system if there were two attendants working together as a team, each paid 1.50 per hour and each able to service on average 2 per hour. [7+7=14]

Answer:

- (a) (1) **Calculation of slack :**

Number of days until due date is 1 week i.e. 5 days for all jobs

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

Sequence:

Job	C	D	E	B	F	A
Slack (Days)	-2	-1	0	1	2	3

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Jobs are sequenced in ascending order of magnitude of respective slack values.

(2) Calculation of Critical ratio:

Critical Ratio = (due date – date now)/ lead time remaining

= (DD – DN)/LTR

= Available time till due date/ operation time still needed to complete the job.

Critical ratio for job A	=	5/2	=	2.5
Critical ratio for job B	=	5/4	=	1.25
Critical ratio for Job C	=	5/7	=	0.71
Critical ratio for job D	=	5/6	=	0.83
Critical ratio for job E	=	5/5	=	1.0
Critical ratio for job F	=	5/3	=	1.67

Job having least critical ratio is given the first priority and so on.

Sequence :	C	D	E	B	F	A
Critical Ratio :	0.71	0.83	1.00	1.25	1.67	2.5

(b) Arrival rate = $\lambda = 2$ per hour

Service rate = $\mu = 3$ per hour

(i) Average number of machinists being served or waiting to be served at any given time:

$$LS = \mu / (\mu - \lambda) = 2 / (3 - 2) = 2$$

(ii) Average Time a machinist spends waiting for the services:

$$WQ = (\lambda / \mu) \times 1 / (\mu - \lambda) = 2/3 \times 1/3 - 2 = 0.667 \text{ hours}$$

It means a machinist spends 40 minutes (i.e., 60×0.667) in the queue.

(iii) Average time in the system:

$$WS = 1 / (\mu - \lambda) = 1 / (3 - 2) = 1 \text{ hour}$$

Average number of machines in the system = 2 [as per (i) above]

Cost of two machines being away from work = ₹ $4 \times 2 = ₹8.00$ per hour

Attendant cost =

₹1.50 per hour

₹9.50 per hour

Cost of 8 – hour day = 8 hrs $\times ₹9.50 = ₹ 76.00$

(iv) It is assumed that there is still a single service point, but the average service rate with 2 attendants now is 4 per hour

∴ Now $\lambda = 2$ per hour

$m = 4$ per hour

∴ Average number of machinists in the system = $LS = \lambda / \mu - \lambda = 2 / (4 - 2) = 1$

Average time spent by a machinist in the system = $WS = 1 / \mu - \lambda = 1 / 4 - 2 = 1/2$ hour

Machinists cost = $1/2 \text{ hr} \times ₹4 =$	₹ 2.00
Attendant cost (@ 1.50 per attendant $\times 2$ attendants)	₹ 3.00
Total Cost	₹ 5.00

Cost per 8 – hour day = ₹5 $\times 8 \text{ hrs.} = ₹40.00$



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5. (a) 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.

- (1) Assess which policy of replacement would be economical.
 - (2) If group replacement is economical at current costs, then assess at what cost of individual replacement would group replacement be uneconomical.
 - (3) How high can the cost per unit in-group replacement be to make a preference for individual replacement policy?
- (b) Draw the network for the following activities and find critical path and total duration of project.

Activity	Duration (months)	Activity	Duration (months)
1-2	2.5	4-5	2.0
2-3	2.5	5-6	3.0
2-4	1.5	6-7	1.5
3-4	1.0	5-7	1.5
3-5	1.0		

[7+7=14]

Answer:

- (a) (1) Computation of failures & Mean life

Month (X)	Probability of Failure (P)	PX
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
		$\sum P_i X_i = 3.35$ month

Average Life of a component = 3.35 months

Average No. of replacements = $2000/3.35 = 597$ per month

Cost of individual Replacement = $597 \times ₹3 = ₹1791$ per month



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Computation of expected No. of Replacements:

Month	Expected number of components to be replaced by the month end	Number
1	$N_1 = N_0P_1 = 2000 \times 0.1$	200
2	$N_2 = N_0P_2 + N_1P_1 = 2000 \times 0.15 + 200 \times 0.1 = 300 + 20$	320
3	$N_3 = N_0P_3 + N_1P_2 + N_2P_1 = 2000 \times 0.25 + 200 \times 0.15 + 320 \times 0.1 = 500 + 30 + 32$	562
4	$N_4 = N_0P_4 + N_1P_3 + N_2P_2 + N_3P_1 = 2000 \times 0.3 + 200 \times 0.25 + 320 \times 0.15 + 562 \times 0.1 = 600 + 50 + 48 + 56.2$	754.2
5	$N_5 = N_0P_5 + N_1P_4 + N_2P_3 + N_3P_4 + N_4P_5 = 2000 \times 0.2 + 200 \times 0.3 + 320 \times 0.25 + 562 \times 0.15 + 754.2 \times 0.1 = 400 + 60 + 80 + 84.3 + 75.42$	699.72

Computation of Average cost:

Month (n)	Cumulative number of component replace individually by month end	Cost		Total Cost (₹)	Average Cost = T_c/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	1836.20	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.

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

Month	Average cost of Group replacement	Average cost of individual replacement	'K' Value *	* To obtain the value of K uses the equation
1	$(2000+200K)/1$	597K	5.04	Average cost of Individual Replacement = Average Cost of Group Replacement.
2	$(2000+520K)/2$	597K	2.97	
3	$(2000+1082K)/3$	597K	2.82	
4	$(2000+1832.2 K)/4$	597K	3.62	
5	$(2000+2535.92K)/5$	597K	4.45	

If group replacement is anything smaller than 2.82, then Group Replacement would be uneconomical.

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

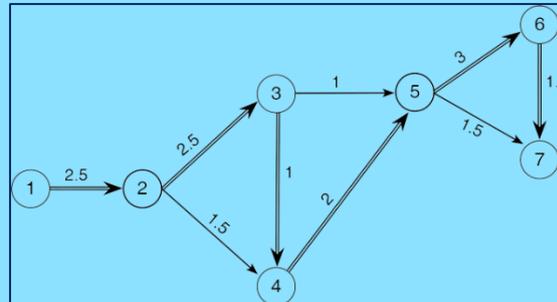
Month	Average cost of Group replacement	Average cost of individual replacement	'a' Value *
1	$(2000a+600)/1$	1791	0.60
2	$(2000a+1560)/2$	1791	1.01
3	$(2000a+3246)/3$	1791	1.06
4	$(2000a+5508.6)/4$	1791	0.83
5	$(2000a+7607.76)/5$	1791	0.67

* To obtain the value of K uses the equation Average cost of Individual Replacement = Average Cost of Group Replacement.



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(b)



Paths	Duration
1-2-3-5-6-7	$2.5+2.5+1+3+1.5 = 10.5$
1-2-3-5-7	$2.5+2.5+1+1.5 = 7.50$
1-2-3-4-5-6-7	$2.5+2.5+1+2+3+1.5 = 12.5$ (Critical path)
1-2-3-4-5-7	$2.5+2.5+1+2+1.5 = 9.5$
1-2-4-5-7	$2.5+1.5+2+1.5 = 7.5$
1-2-4-5-6-7	$2.5+1.5+2+3+1.5 = 10.5$

6. (a) Explain the meaning of Strategy. How do you classify Strategy in a typical business firm?

(b) Describe the merits and demerits of Cloud Computing?

[3+4+7=14]

Answer:

(a) Strategy is a set of goal-directed actions a firm takes to gain and sustain superior performance relative to competitors. To achieve superior performance, companies compete for resources. A strategy is good when it enables a firm to achieve superior performance. It consists of three elements.

- 1) a diagnosis of the competitive challenge
- 2) a guiding policy to address the competitive challenge
- 3) a set of coherent actions to implement a firm's guiding policy.

The term strategy is derived from the Greek word *strategia*, meaning "generalship". Although the word is Greek, yet the concept has its origins from the classic, *The Art of War*, written by Sun Tzu written about 500 BC. This is regarded as the first methodical documentation on strategy. A strategy of an organisation provides the basic framework through which the organisation will achieve its mission and objectives. The sole objective of a strategy is to provide competitive advantage.

Strategy may be defined as the direction and scope of an organisation over the long term, which achieves advantage for the organisation through the configuration of resources within a changing environment and to fulfil stakeholder expectations.

A typical business firm usually considers three types of strategy:

- 1) Corporate strategy: It is concerned with the overall purpose and scope of an organisation and how value will be added to the different parts (business units) and product lines of the

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organisation. Corporate strategies typically fit within the three main categories of stability, growth and retrenchment. Decisions include investment in diversification, vertical integration, acquisitions, new ventures, the allocation of resources between the different businesses of the firm and divestments.

- 2) **Business strategy:** It is about how to compete successfully in particular markets. It emphasises improvement of the competitive position of a organisation's products or services in the specified industry or market segment served by that business unit. These strategies fit within the two overall categories namely, competitive and cooperative strategies.
- 3) **Functional strategy or Operational Level Strategy:** It is concerned with how the component parts of an organisation deliver effectively the corporate and business level strategies in terms of resources, processes and people. It is concerned with developing and nurturing competence to provide a business unit with a competitive advantage. These strategies are taken at the functional level directed towards maximising resource productivity.

- (b) Cloud computing is a general term for anything that involves delivering hosted services over the internet. These services are divided into three main categories or types of cloud computing: infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS).

Cloud computing benefits to modern businesses including the following:

1. **Cost management:** Cloud infrastructure can reduce capital costs, as organisations don't have to spend massive amounts of money buying and maintaining equipment.
2. **Data and workload mobility:** Cloud computing allows users to access data from anywhere with any device with just an internet connection.
3. **Business continuity and disaster recovery (BCDR):** The biggest worry for organisations in the present digital landscape is data loss. Storing data in the cloud guarantees that users can always access their data even if their devices, e.g., laptops or smart phones, are inoperable.

The demerits of cloud computing:

In spite of the fact that cloud computing has huge benefits yet, it has its own causes of concern as follows:

1. **Cloud security:** There is a clear lack of transparency regarding how and where sensitive information entrusted to the cloud provider is handled.
2. **Cost unpredictability:** The concept Pay-as-you-go subscription plans for cloud use, along with scaling resources to accommodate fluctuating workload demands, can make it tough to define and predict final costs.
3. **Lack of capability and expertise:** With cloud-supporting technologies rapidly advancing, organisations are struggling to keep up with the growing demand for tools and employees with the proper skill sets and knowledge needed to architect, deploy, and manage workloads and data in a cloud.
4. **IT governance:** The emphasis on do-it-yourself capability in cloud computing can make IT governance difficult, as there is no control over provisioning, de provisioning and management of infrastructure operations.

7. (a) **Summarize the factors that determine the rivalry among established firms according to Porter's Five Forces Framework.**

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- (b) Discuss with reason the political factors which influence the decisions and behaviour of firms?
[7+7=14]

Answer:

- (a) The second competitive force is the intensity of rivalry among established companies within an industry. Rivalry refers to the competitive struggle between companies within an industry to gain market share from each other. The competitive struggle can be fought using price, product design, advertising and promotional spending, direct- selling efforts, and after-sales service and support. Intense rivalry implies lower prices or more spending on non- price-competitive strategies, or both. Because intense rivalry lowers prices and raises costs, it squeezes profits out of an industry. Thus, intense rivalry among established companies constitutes a strong threat to profitability. Alternatively, if rivalry is less intense, companies may have the opportunity to raise prices or reduce spending on non-price competitive strategies, leading to a higher level of industry profits. Four factors have a major impact on the intensity of rivalry among established companies within an industry:
1. industry competitive structure,
 2. demand conditions,
 3. cost conditions, and
 4. the height of exit barriers in the industry.
1. **Industry competitive structure:** The competitive structure of an industry refers to the number and size distribution of companies in it, something that strategic managers determine at the beginning of an industry analysis. Industry structures vary, and different structures have different implications for the intensity of rivalry. Low-entry barriers and commodity-type products that are difficult to differentiate characterize many fragmented industries and imply that new entrants will flood the market, hoping to profit from the boom that occurs when demand is strong and profits are high. Economic boom times in fragmented industries are often relatively short-lived because the ease of new entry can soon result in excess capacity, which in turn leads to intense price competition and the failure of less efficient enterprises. A consolidated industry is dominated by a small number of large companies (an oligopoly) or, in extreme cases, by just one company (a monopoly), and companies often are in a position to determine industry prices.
 2. **Industry Demand:** The level of industry demand is another determinant of the intensity of rivalry among established companies. Growing demand from new customers or additional purchases by existing customers tend to moderate competition by providing greater scope for companies to compete for customers.it tends to reduce rivalry because all companies can sell more without taking market share away from other companies. High industry profits are often the result.
 3. **Cost Conditions:** The cost structure of firms in an industry is a third determinant of rivalry. Fixed costs are the costs that must be paid before the firm makes a single sale. In industries where fixed costs are high, profitability tends to be highly leveraged to sales volume, and the desire to grow volume can spark intense rivalry. Moreover, in industries where the fixed costs

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of production are high, firms cannot cover their fixed costs and will not be profitable if sales volume is low. Research suggests that the weakest firms in an industry often initiate such actions, precisely because they are struggling to cover their fixed costs.

4. **Exit Barriers:** Exit barriers are economic, strategic, and emotional factors that prevent companies from leaving an industry. If exit barriers are high, companies become locked into an unprofitable industry where overall demand is static or declining. The result is often excess productive capacity, leading to even more intense rivalry and price competition as companies cut prices, attempting to obtain the customer orders needed to use their idle capacity and cover their fixed costs. Common exit barriers include the following:
- Investments in assets such as specific machines, equipment, or operating facilities those are of little or no value in alternative uses, or cannot be later sold.
 - High fixed costs of exit, such as severance pay, health benefits, or pensions that must be paid to workers who are being made laid off when a company ceases to operate.
 - Emotional attachments to an industry, such as when a company's owners or employees are unwilling to exit from an industry for sentimental reasons or because of pride, etc.

(b) List of Political factors affecting a business:

- Political stability: This instability often makes it hard for businesses to operate. The political environment can make a huge difference to any business, from start-ups to large corporations.
- Labour law changes: Labour law changes can be tricky. Any change in labour laws will affect businesses. Changes are typically pushed by the government. It is usually a result of demands from the working class or a shift in public opinion. Therefore, businesses need to be aware of these changes and find ways to comply.
A change in political leadership can change government policies. In some countries, certain political parties are considered 'Business Friendly.' Some political parties are more workers-friendly in terms of policies.
- Foreign trade agreements: FTAs (free trade agreements) remove trade barriers and tariffs between countries. It's one of the best ways to boost international trade. They affect both domestic and international trade. Global business relationships have been built on these agreements for centuries. Here are a few key benefits of FTAs,
 - Price reduction due to competition
 - Increase in productivity
 - Economy of scale with distributed manufacturing
 - Improves standard of living
- Corruption: Countries with high levels of corruption can't provide equal opportunities for similar investments. Corrupt business practices can give big companies with deep pockets and illegal government connections an unfair advantage.
Corruption levels and perceptions vary widely across countries. In comparison, the developed world has low levels of corruption. Conversely, emerging economies in Asia, Africa, and South America tend to have higher levels of corruption.
- Tariffs: Tariffs are meant to keep local businesses protected from foreign competition. Basically, you're making consumers buy products within a country's borders. In some cases,

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tariffs are used as a form of protectionism. Governments do that by placing limitations on imports through taxes or other trade barriers.

- Prices can go up due to low supplies and competition.
- Product quality might stagnate with reduced competition.
- It can create tensions among different countries leading to more restrictions and tariffs.

6. Consumer Protection: Consumer protection laws are there to protect consumers from poor-quality products and bad business practices. Laws about consumer protection ensure that customers get a quality product at fair prices without risking their health or finances.

These laws affect businesses, including raising costs. These laws may seem burdensome to some businesses, but they are essential to preventing consumer fraud.

7. Taxes: taxes play a big part in business and investor decisions. Countries need to offer the best tax rates to be competitive. It has a significant impact on economic growth, employment rates, and entrepreneurship.

Foreign investment is thwarted by taxes that are too high or complicated. It drives out domestic investments by making them less profitable than elsewhere in the global market. For small businesses, complicated taxes mean more tax lawyer expenses.

8. Bureaucracy: Many countries deal with corruption. Often, it's caused by poor governance, a lack of transparency, a weak rule of law, and weak public institutions. However, some governments are trying to cut corruption in public services and administrative procedures.

8. (a) **“Strategic Control helps managers obtain superior efficiency, quality, innovation and responsiveness to customers”- discuss.**

(b) **Analyze the advantages and disadvantages of Project – based structures.** [7+7=14]

Answer:

(a) Strategic control is not only about monitoring how well an organization and its members are currently performing, or about how well the firm is using its existing resources. It is also about how to create the incentives to keep employees motivated and focused on the important problems that may confront an organization in the future so that the employees work together and find solutions that can help an organization perform better over time.

1. Control and efficiency: It is the task of the managers to be able to accurately measure how many units of inputs (raw materials, human resources, and so on) are being used to produce a unit of output. They must also be able to measure the number of units of outputs (goods and services) they produce. A control system contains the measures or yardsticks that allow managers to assess how efficiently they are producing goods and services. Moreover, if managers experiment to find a more efficient way to produce goods and services, these measures tell managers how successful they have been.
2. Control and quality: Today, competition often revolves around increasing the quality of goods and services. Strategic control is important in determining the quality of goods and services because it gives managers feedback on product quality.
3. Control and innovation: Strategic control can help to raise the level of innovation in an organization. Successful innovation takes place when managers create an organizational



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setting in which employees feel empowered to be creative and in which authority is decentralized to employees so that they feel free to experiment and take risks.

4. Control and responsiveness to customers: Finally, strategic managers can help make their organizations more responsive to customers if they develop a control system that allows them to evaluate how well employees with customer contact are performing their jobs.

- (b) A project-based structure is one where teams are created, undertake the work and are then dissolved. This can be particularly appropriate for organisations that deliver large and expensive goods or services or those delivering time-limited events.

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.