1. (i) Business Process Management's (BPM) Principles are as follows:

- BPM’s first principle is **processes are assets** that create value for customers. They are to be managed and continuously improved. Because process are assets, core processes and processes that generate the most value to customers should be carefully managed.

- A managed process produces consistent **value to customers** and has the foundation for the process to be improved. Management of processes entails the tasks of measuring, monitoring, controlling, and analysing business processes. Measuring of business processes provides information regarding these business processes. Process information allows organizations to predict, recognize, and diagnose process deficiencies, and it suggests the direction of future improvements.

- The third principle is **continuous improvement** of processes. This is a natural result of process management. Process improvement is facilitated by the availability of process information. The business environment usually dictates that organizations need to improve to stay competitive. Business processes are central to an organization’s value creation. It follows that processes should be continuously improved.

(ii) BPA solutions feature three critical pillars – Integration, Orchestration and Automation which are as follows:

- **Integration:** BPA allows applications and operating systems not only to read data that the systems produce, but also to pass data between the component applications of the business process and to modify the data as necessary.

- **Orchestration:** The process of orchestration enables the ability to bring tasks that exist across multiple computers and different business departments or branches under one umbrella that is the business process itself.
Automation: Orchestration and integration unite with automation to deliver the capability to provide a rules-based process of automatic execution that can span multiple systems and enable a more effective, nimble and efficient business process.

(iii) The three tiers in three-tier architecture are as follows:

- **Presentation Tier:** Occupies the top level and displays information related to services available on a website. This tier communicates with other tiers by sending results to the browser and other tiers in the network.
- **Application Tier:** Also, called the middle tier, logic tier, business logic or logic tier; this tier is pulled from the presentation tier that controls application functionality by performing detailed processing.
- **Database Tier:** This tier houses the database servers where information is stored and retrieved. Data in this tier is kept independent of application servers or business logic.

(iv) The pre-requisites of ACID Test for any TPS are as follows:

- **Atomicity:** This means that a transaction is either completed in full or not at all. TPS systems ensure that transactions take place in their entirety. For example, if funds are transferred from one account to another, this only counts as a bona-fide transaction if both the withdrawal and deposit take place. If one account is debited and the other is not credited, it does not qualify as a transaction.
- **Consistency:** TPS systems exist within a set of operating rules (or integrity constraints). If an integrity constraint states that all transactions in a database must have a positive value, any transaction with a negative value would be refused.
- **Isolation:** Transactions must appear to take place in seclusion. For example, when a fund transfer is made between two accounts the debiting of one and the crediting of another must appear to take place simultaneously. The funds cannot be credited to an account before they are debited from another.
- **Durability:** Once transactions are completed they cannot be undone. To ensure that this is the case even if the TPS suffers failure, a log will be created to document all completed transactions.

(v) **Computerized Information Processing Cycle:** These are systems where computers are used at every stage of transaction processing. The components of a computerized information processing cycle include the following:
- **Input:** Entering data into the computer;
- **Processing:** Performing operations on the data;
- **Storage:** Saving data, programs, or output for future use; and
- **Output:** Presenting the results.

2. (a) Several Network Security tools that are used to protect information and systems against compromise, intrusion, or misuse are as follows:

   (i) **Intrusion Detection System (IDS):** An Intrusion Detection System is a device or software application that monitors network or system activities for malicious activities or policy violations and produces reports to a Management Station. The goal of intrusion detection is to monitor network assets to detect anomalous behaviour and misuse.

   (ii) **Firewall:** Firewall is a device that forms a barrier between a secure and an open environment when the latter environment is usually considered hostile, for example, the Internet. It acts as a system or combination of systems that enforces a boundary between more than one networks.

   (iii) **Network Access Control:** Network Access Control (NAC) products enforce security policy by granting only security policy-compliant devices access to network assets. They handle access authentication and authorization functions and can even control the data that specific users’ access, based on their ability to recognize users, their devices and their network roles.

   (iv) **Anti – Malware:** Anti-malware network tools help administrators identify block and remove malware. They enable the IT department to tailor its anti-malware policies to identify known and unknown malware sources. Malware is always on the lookout for network vulnerabilities - in security defences, operating systems, browsers, applications and popular targets such as Adobe Flash, Acrobat and Reader - that they can exploit to fully access a victim’s network. Best practices call for a multipronged defence that might also include IP blacklisting, data loss prevention (DLP) tools, anti-virus and anti-spyware software, web browsing policies, egress filtering, and outbound-traffic proxies.

   (v) **Site Blocking:** It is a software-based approach that prohibits access to certain Web sites that are deemed inappropriate by management. For example, sites that contain explicit objectionable material can be blocked to prevent employee’s from accessing these sites from company Internet servers. In addition to blocking sites, companies can also log activities and determine the amount of time spent on the Internet and identify the sites visited.
(b) **Open Systems Interconnection (OSI) Model:** The International Standards Organization (ISO) developed a seven-layer Open Systems Interconnection (OSI) model to serve as a standard model for network architectures. Dividing data communications functions into seven distinct layers promotes the development of modular network architectures, which assists the development, operation, and maintenance of complex telecommunications networks. Seven layers of OSI include the following:

- **Layer 7 or Application Layer:** The application layer of OSI layer architecture is closest to the end user, which interacts with software applications and provides user services by file transfer, file sharing, etc. Database concurrency and deadlock situation controls are undertaken at this layer level. This is the layer at which communication partners are identified, quality of service is identified, user authentication and privacy are considered, database concurrency and deadlock situation controls undertaken and any constraints on data syntax are identified.

- **Layer 6 or Presentation Layer:** This layer at times referred as Syntax Layer also, is usually a part of an operating system, that converts incoming and outgoing data from one presentation format to another. It further controls on screen display of data, transforms data to a standard application interface. Encryption, data compression can also be undertaken at this layer level.

- **Layer 5 or Session Layer:** This layer sets up, coordinates, and terminates conversations, exchanges, and dialogs between the applications at each end. It deals with session and connection coordination. It provides for full-duplex, half-duplex, or simplex operation, and establishes check pointing, adjournment, termination, and restart procedures. The OSI model made this layer responsible for "graceful close" of sessions also.

- **Layer 4 or Transport Layer:** This layer ensures reliable and transparent transfer of data between user processes, assembles and disassembles message packets, and provides error recovery and flow control. Multiplexing and encryption are undertaken at this layer level. This means that the Transport Layer can keep track of the segments and retransmit those that fail.

- **Layer 3 or Network Layer:** The Network Layer provides the functional and procedural means of transferring variable length data sequences from a source to a destination via one or more networks, while maintaining the quality of service requested by the Transport Layer. The Network Layer makes a choice of the physical route of transmission, creates a virtual circuit for upper layers to make them independent of data transmission and switching, establishes,
maintains, terminates connections between the nodes and ensure proper routing of data.

- **Layer 2 or Data Link Layer**: The Data Link Layer responds to service requests from the Network Layer and issues service requests to the Physical Layer. The Data Link Layer is the protocol layer which transfers data between adjacent network nodes in a wide area network or between nodes on the same local area network segment. This layer is also a hardware layer which specifies channel access control method and ensures reliable transfer of data through the transmission medium. It provides the functional and procedural means to transfer data between network entities and to detect and possibly correct errors that may occur in the Physical Layer.

- **Layer 1 or Physical Layer**: The Physical Layer is a hardware layer which specifies mechanical features as well as electromagnetic features of the connection between the devices and the transmission. Establishment and termination of a connection to a communications medium; participation in the process whereby the communication resources are effectively shared among multiple users; and modulation or conversion between the representation of digital data in user equipment and the corresponding signals transmitted over a communications channel are the major functions and services performed by the Physical Layer.

3. **Let us define the variables first**:

   - **NAME**: Customer Name
   - **HCHG**: Hire Charges
   - **TCHG**: Total Charges
   - **SEAS**: Season
   - **RATE**: Charges per day
   - **N**: Number of customers
   - **DAYS**: Number of days a bicycle is hired for
   - **NRT**: Net Rate

   The required flowchart is shown in Figure below.
Start

Clear all working locations

A

Read NAME, SEAS, DAYS

N = N + 1

SEAS = SPRING

Yes

RATE = 8.00

No

SEAS = SUMMER

Yes

RATE = 9.50

No

SEAS = AUTUMN

Yes

RATE = 5.00

No

SEAS = WINTER

Yes

RATE = 6.00

No

Print Invalid SEAS

B

Yes

DAY > 10

Yes

NRT = RATE - RATE * 0.15

No

NRT = RATE

HCHG = DAYS * NRT

TCHG = HCHG + 20.00

Print NAME, DAYS, HCHG, TCHG

B

Yes

N ≥ 25

No

A

Stop

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Office Automation Systems (OAS): The Office Automation Systems (OAS) is an amalgamation of hardware, software, and other resources used to smooth the progress of communications and augment efficiency. Office automation refers to the use of computer and software to digitally generate, collect, store, manipulate, and relay office information needed for accomplishing basic tasks and goals. Some of the Office automation Applications are as follows:

- **Word Processing**: Use of a computer to perform automatically many of the tasks necessary to prepare typed or printed documents.

- **Electronic mail**: Use of a computer network that allows users to send, store and retrieve messages using terminals and storage devices.

- **Voice Mail**: Requires computers with an ability to store audio messages digitally and convert them back upon retrieval.

- **Electronic Calendaring**: Use of a networked computer to store and retrieve a manager’s appointment calendar. Allows other managers’ calendars to be accessed and facilitates scheduling.

- **Video Conferencing**: Use of television equipment to link geographically dispersed conference participants.

- **Desktop Video Conferencing**: Video and audio equipment are attached to each workstation in the network enabling the two-way communication of picture and sound.

- **FAX**: Uses special equipment that can read document at one end of a communication channel and make a copy at the other end.

- **Imaging**: Uses Optical Character Recognition (OCR) to convert data on paper to a digital format for storage in a secondary storage device.

- **Desktop Publishing**: Uses a computer to prepare output that is very close in quality to that produced by a typesetter.

Information is said to be the currency of the present business environment and rightfully it can be said that we are living in the ‘Information Age’ because of the following reasons:

- Information is a significant resource to an organization that represents the organization’s tangible and intangible resources and all transactions relating to those resources.
• Information influences the way an organization operates. The right information, if it is transported to the right person, in the right fashion, and at the right time, can progress and guarantee organizational effectiveness and competence.

• An Information System is an integrated process of components - people, processes, and technology for collecting, storing, processing, and communicating information. Any specific Information System aims to support operations, management and decision making. People need technology to process the information in fast and accurate manner with a motive to get an edge, which is very well depict and self-explanatory in nature. Here People are considered as a Frontline Employees, executives and managers. The role of information systems in the organization is shifting to support business processes rather than individual functions. The focus is outwards to customers, rather than inwards to procedures.

• Information systems have facilitated supplementary varied human activities and have put forth a thoughtful power over civilization. These systems have impacted the pace of growth of day-to-day activities, expanded the scope of service offerings and empowered enterprises to reach out to customers across the world without the limitations of time and space.

• People require information for many reasons and in varied ways. For example, we probably seek information for entertainment and enlightenment by viewing television, watching movies, browsing the Internet, listening to the radio, and reading newspapers, magazines, and books. In business, however, people and organizations seek and use information specifically to make sound decisions and to solve problems - two closely related practices that form the foundation of every successful company.

5. (a) **Cloud Computing Architecture** refers to the components and subcomponents that typically consist of a front end platform (fat client, thin client, mobile device), back end platforms (servers, storage), a cloud based delivery, and a network (Internet, Intranet, Intercloud). Combined, these components make up cloud computing architecture. Cloud architecture typically involves multiple cloud components communicating with each other over a tight or loose coupling of cloud resources, services, middleware, and software components. The protection in cloud computing depends on having the right architecture for the right application. Organizations must understand the individual requirements of their applications, and if already using a cloud platform, understand the corresponding cloud architecture.

A cloud computing architecture consists of two parts - **Front End** and a **Back End** that connect to each other through a network, usually the Internet. The front end is
the side the computer user, or client, sees. The back end is the “cloud” section of the system.

- **Front End:** The Front End of the cloud computing system comprises of the client's devices (or it may be a computer network) and some applications are needed for accessing the cloud computing system. All the cloud computing systems do not give the same interface to users. For example, Web services like electronic mail programs use some existing web browsers such as Firefox, Microsoft’s internet explorer or Apple’s Safari. Other types of systems have some unique applications which provide network access to its clients.

- **Back End:** Back End refers to some physical peripherals. In cloud computing, the back end is cloud itself which may encompass various computer machines, data storage systems and servers. Groups of these clouds make a whole cloud computing system. Theoretically, a cloud computing system can include practically any type of web application program such as video games to applications for data processing, software development and entertainment residing on its individual dedicated server for services. There are some set of rules, generally called as Protocols which are followed by this server and it uses a special type of software known termed as Middleware that allow computers that are connected on networks to communicate with each other. If any cloud computing service provider has many customers, then there’s likely to be very high demand for huge storage space. Many companies that are service providers need hundreds of storage devices.

(b) **Information Systems Life Cycle:** This is commonly referred as Software/System Development Life Cycle (SDLC), which is a methodology used to describe the process of building information systems. It is the logical starting point in the entire life cycle of a computerized system. Activities start when any enterprise decides to go for computerization or migrate from existing computerized system to a new one. SDLC framework provides a sequence of activities for system designers and developers to follow. It consists of a set of steps or phases in which each phase of the SDLC uses the results of the previous one. This serves as a guideline to the designer, who seeks to use it as template while working on a project development.

**Phase 1: System Investigation:** This phase examines that ‘What is the problem and is it worth solving’? We would be doing a feasibility study under the dimensions like Technical feasibility, Economic feasibility, Legal feasibility, Operational feasibility, Schedule feasibility.

**Phase 2: System Analysis:** This phase examines that ‘What must the Information System do to solve the problem’? System analyst would be gathering details about
the current system and will involve interviewing staff, examine current business, sending out questionnaires; and observation of current procedures. The Systems Analyst will examine data and information flows in the enterprise using data flow diagrams; establish what the proposed system will do (not how it will do it); analyze costs and benefits; outline system implementation options. (e.g. in-house or using consultants); consider possible hardware configurations; and make recommendations.

**Phase 3: System Designing:** This phase examines that ‘How will the Information System do that it must do to obtain the solution to the problem’? This phase specifies the technical aspects of a proposed system in terms of Hardware platform, Software, Outputs, Inputs, User interface, Modular design, Test plan, Conversion plan and Documentation.

**Phase 4: System Implementation:** This phase examines that ‘How will the Solution be put into effect’? This phase involves steps like coding and testing of the system; acquisition of hardware and software; and either installation of the new system or conversion of the old system to the new one.

**Phase 5: System Maintenance and Review:** This phase evaluates results of solution and modifies the system to meet the changing needs. Post implementation review would be done to address Programming amendments, Adjustment of clerical procedures, Modification of Reports, and Request for new programs.

6. (a) Controls relevant for information systems and their audit is divided into two parts – Managerial Controls and Application Controls.

   (i) **Managerial Controls:** In this part, examine controls over the managerial functions that must be performed to ensure the development, implementation, operation and maintenance of information systems in a planned and controlled manner in an organization are examined. The controls at this level provide a stable infrastructure in which information systems can be built, operated, and maintained on a day-to-day basis.

   **Types of Management Subsystem and their description**

<table>
<thead>
<tr>
<th>Management Subsystem</th>
<th>Description of Subsystem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Management</td>
<td>Top management must ensure that information systems function is well managed. It is responsible primarily for long – run policy decisions on how Information Systems will be used in the organization.</td>
</tr>
</tbody>
</table>
Information Systems Management

IS management has overall responsibility for the planning and control of all information system activities. It also provides advice to top management in relation to long-run policy decision making and translates long-run policies into short-run goals and objectives.

Systems Development Management

Systems Development Management is responsible for the design, implementation, and maintenance of application systems.

Programming Management

It is responsible for programming new system; maintain old systems and providing general systems support software.

Data Administration

Data administration is responsible for addressing planning and control issues in relation to use of an organization's data.

Quality Assurance Management

It is responsible for ensuring information systems development; implementation, operation, and maintenance conform to established quality standards.

Security Administration

It is responsible for access controls and physical security over the information systems function.

Operations Management

It is responsible for planning and control of the day-to-day operations of information systems.

(ii) Application Controls: In this, the application functions that need to be in place to accomplish reliable information processing are examined.

Types of Application Subsystem and their description

<table>
<thead>
<tr>
<th>Application Subsystem</th>
<th>Description of Subsystem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boundary</td>
<td>Comprises the components that establish the interface between the user and the system.</td>
</tr>
<tr>
<td>Input</td>
<td>Comprises the components that capture, prepare, and enter commands and data into the system.</td>
</tr>
<tr>
<td>Communication</td>
<td>Comprises the components that transmit data among subsystems and systems.</td>
</tr>
<tr>
<td>Processing</td>
<td>Comprises the components that perform decision making, computation, classification,</td>
</tr>
</tbody>
</table>
ordering, and summarization of data in the system.

Output | Comprises the components that retrieve and present data to users of the system.

| Database | Comprises the components that define, add, access, modify, and delete data in the system.

(b) Major applications based on the concept of the virtualization are as follows:

- **Server Consolidation**: Virtual machines are used to consolidate many physical servers into fewer servers, which in turn host virtual machines. Each physical server is reflected as a virtual machine "guest" residing on a virtual machine host system. This is also known as "Physical-to-Virtual" or 'P2V' transformation.

- **Disaster Recovery**: Virtual machines can be used as "hot standby" environments for physical production servers. This changes the classical "backup-and-restore" philosophy, by providing backup images that can "boot" into live virtual machines, capable of taking over workload for a production server experiencing an outage.

- **Testing and Training**: Virtualization can give root access to a virtual machine. This can be very useful such as in kernel development and operating system courses.

- **Portable Applications**: Portable applications are needed when running an application from a removable drive, without installing it on the system's main disk drive. Virtualization can be used to encapsulate the application with a redirection layer that stores temporary files, windows registry entries and other state information in the application’s installation directory and not within the system's permanent file system.

- **Portable Workspaces**: Recent technologies have used virtualization to create portable workspaces on devices like iPods and USB memory sticks.

7. (a) **Resource Balancing in Grid Computing**: For applications that are grid-enabled, the grid can offer a resource balancing effect by scheduling grid jobs on machines with low utilization. This feature of grid computing handles occasional peak loads of activity in parts of a larger organization. An unexpected peak can be routed to relatively idle machines in the grid; and if the grid is already fully utilized, the lowest priority work being performed on the grid can be temporarily suspended or even cancelled and performed again later to make room for the higher priority work.

(b) **Scorecards**: This involves providing a visual representation of the enterprise strategy by taking critical metrics and mapping them to strategic goals throughout the enterprise. Scorecards offer a rich, visual gauge to display the performance of specific initiatives, business units, or the enterprise as a whole and the individual goals in the
context of larger enterprise strategy. Scorecards distil information into a small number of metrics and targets and provide users with an at-a-glance perspective of information. A scorecard has a graphical list of specific, attainable strategic milestones, combined with metrics that serve as benchmarks. Specific measures on how well the company has actually performed specified activities are linked in the scorecard with graphical display highlighting the status of each goal.

(c) **Business-to-Consumer (B2C) e-Commerce:** It is defined as the exchange of services, information and/or products from a business to a consumer, as opposed to between one business and another. Typically, a B2C e-Commerce business has a virtual store front for consumers to purchase goods and services eliminating the need to physically view or pick up the merchandise.

Advantages of B2C E-Commerce include:

- Shopping can be faster and more convenient.
- Offerings and prices can change instantaneously.
- Call centers can be integrated with the website.
- Broadband telecommunications will enhance the buying experience.

(d) **Virtual Memory:** Virtual Memory is in fact not a separate device but an imaginary memory area supported by some operating systems (for example, Windows) in conjunction with the hardware. If a computer lacks the Random-Access Memory (RAM) needed to run a program or operation, Windows uses virtual memory to compensate. Virtual memory combines computer’s RAM with temporary space on the hard disk. When RAM runs low, virtual memory moves data from RAM to a space called a paging file. Moving data to and from the paging file frees up RAM to complete its work. Thus, Virtual memory is an allocation of hard disk space to help RAM.

(e) The PDCA cycle of Total Quality Management is as follows:

- **Plan:** In the planning phase, people define the problem to be addressed, collect relevant data, and ascertain the problem's root cause.
- **Do:** In the doing phase, people develop and implement a solution, and decide upon a measurement to gauge its effectiveness;
- **Check:** In the checking phase, people confirm the results through before-and-after data comparison;
- **Act:** In the acting phase, people document their results; inform others about process changes, and make recommendations for the problem to be addressed in the next PDCA cycle.
1. (a) XYZ limited is following backward vertical integration. Backward integration is a step towards, creation of effective supply by entering business of input providers. Strategy employed to expand profits and gain greater control over production of a product whereby a company will purchase or build a business that will increase its own supply capability or lessen its cost of production (as in the case for XYZ).

(b) Yes, the production strategy implements, supports and drives higher strategies. For effective implementation of higher level strategies, strategists need to provide direction to functional managers, including production, regarding the plans and policies to be adopted. Production strategy provides a path for transmitting corporate and business level strategy to the production systems and makes it operational. It may relate to production planning, operational system, control and research & development.

(c) The TOWS matrix illustrates how the external opportunities and threats facing a particular corporation can be matched with company's internal strengths and weaknesses to result in possible strategic alternatives to be competitive. It is a good way to use brainstorming and to create alternative strategies that might not otherwise be considered. It forces strategic managers to design various growth, stability or retrenchment strategies. It can be used to generate corporate as well as business strategies.

Moreover, TOWS Matrix is very useful for generating a series of alternatives that the decision makers of a company or business unit might not otherwise have considered. Nevertheless, the TOWS Matrix is only one of the many ways to generate alternative strategies.

In a way TOWS is considered to be an improvement over the SWOT. However, it is not undermining the SWOT analysis.

(d) Stability strategy is advisable option for the organisations facing recession. During recession businesses face reduced demand for their products even at low prices. Funds become scarce, expenditure on expansion is stopped, profits decline and businesses try to minimise the costs. They work hard to maintain the existing market share, so that company survives the recessionary period.
(e) An opportunity is a favourable condition in the organisation’s environment which enables it to strengthen its position. On the other hand a threat is an unfavourable condition in the organisation’s environment which causes a risk for, or damage to, the organisation’s position. Different developments in the environment can offer different opportunities and threats to businesses.

In the social environment, there is growth of nuclear families that is away from the joint family system. Often both husbands and wife are working. Having double income increases their spending capacity. Such developments bring direct opportunities to different businesses such as ready to eat food, eateries, fast to cook items, dish washers, washing machines, crèches for children and so on. Indirect opportunities exists for other lifestyle products. At the same time, such development also acts as threat to traditional raw food suppliers, kitty party organizers and so on.

2 (a) (i) Correct: Strategies are meant to fill in the need of enterprises for a sense of direction, focus and coherent functioning. They provide a systematic basis for the enterprise to stand its ground in the face of challenge and change as also quickly adjust to them. They obviate the occasions for impulsive and crisis decisions, false starts, misdirected moves, wasted resource uses and the like.

(ii) Correct: Experience curve results from a variety of factors such as learning effects, economies of scale, product redesign and technological improvements in production. The concept of experience curve is relevant for a number of areas in strategic management. For instance, experience curve is considered a barrier for new firms contemplating entry in an industry. It is also used to build market share and discourage competition.

(b) (i) Direct Marketing: Marketing through various advertising media that interact directly with consumers, generally calling for the consumer to make a direct response. Direct marketing includes Catalogue Selling, Mail, Telecomputing, Electronic Marketing, Shopping, and TV shopping.

(ii) Augmented Marketing: It is provision of additional customer services and benefits built around the care and actual products that relate to introduction of hi-tech services like movies on demand, online computer repair services, secretarial services, etc. Such innovative offerings provide a set of benefits that promise to elevate customer service to unprecedented levels.

(iii) Services Marketing: It is applying the concepts, tools, and techniques, of marketing to services. Services is any activity or benefit that one party can offer to another that is essentially intangible and does not result in, the banking, savings, retailing, educational or utilities.

3 (a) Retrenchment Strategy: A business organisation can redefine its business by divesting a major product line or market. Retrenchment or retreat becomes necessary or expedient for coping with particularly hostile and adverse situations in the
environment and when any other strategy is likely to be suicidal. In business parlance also, retreat is not always a bad proposition to save the enterprise's vital interests, to minimise the adverse environmental effects, or even to regroup and recoup the resources before a fresh assault and ascent on the growth ladder is launched.

(b) **Kieretsus:** Kieretsus is a loosely-coupled group of companies, usually in related industries. It is a Japanese term which is used for large cooperative networks of businesses. Kieretsus members are peers and may own significant amounts of each other's stock and have many board members in common.

(c) **Benchmarking:** It is a process of finding the best practices within and outside the industry to which an organisation belongs. Knowledge of the best helps in standards setting and finding ways to match or even surpass own performances with the best performances.

Benchmarking is a process of continuous improvement in search for competitive advantage. Firms can use benchmarking process to achieve improvement in diverse range of management function like maintenance operations, assessment of total manufacturing costs, product development, product distribution, customer services, plant utilisation levels and human resource management.

4. The term strategy is associated with unified design and action for achieving major goals, gaining command over the situation with a long-range perspective and securing a critically advantageous position. Strategies are formulated at the corporate, divisional and functional level. Corporate strategies are formulated by the top managers. They include the determination of the business lines, expansion and growth, vertical and horizontal integration, diversification, takeovers and mergers, new investment and divestment areas, R & D projects, and so on. These corporate wide strategies need to be operationalized by divisional and functional strategies regarding product lines, production volumes, quality ranges, prices, product promotion, market penetration, purchasing sources, personnel development and like.

In general, a corporate strategy has the following characteristics:

- It is long-range in nature, though valid for short-range situations.
- It is action oriented and is more specific than objectives.
- It is multi-pronged and integrated.
- It is flexible and dynamic.
- It is formulated at the top management level, though middle and lower level managers are associated in their formulation and in designing sub-strategies.
- It is generally meant to cope with a competitive and complex setting.
- It flows out of the goals and objectives of the enterprise and is meant to translate them into realities.
• It is concerned with perceiving opportunities and threats and seizing initiatives.
• It gives importance to combination, sequence, timing, direction and depth of various moves and action initiatives.
• It provides unified criteria for managers in function of decision making.

7. A strategic leader has several responsibilities, including the following:

◆ Environment Scanning.
◆ Dealing with the diverse and cognitively competitive situations.
◆ Managing human capital.
◆ Effectively managing the company's operations.
◆ Sustaining high performance over time.
◆ Willing to make candid, courageous, and yet pragmatic decisions.
◆ Decision-making responsibilities that cannot be delegated.
◆ Seeking feedback through face-to-face communications.
◆ Being spokesman of the organisation.

Difference between Transformational and Traditional leadership style:

i. Traditional leadership borrowed its concept from formal Top-down type of leadership such as in the military. The style is based on the belief that power is bestowed on the leader, in keeping with the traditions of the past. This type of leadership places managers at the top and workers at the bottom of rung of power.

In transformational leadership, leader motivates and empowers employees to achieve company's objectives by appealing to higher ideas and values. They use charisma and enthusiasm to inspire people to exert them for the good of the organization.

ii. Traditional leadership emphasizes characteristics or behaviours of only one leader within a particular group whereas transformational leadership provides a space to have more than one leader in the same group at the same time. According to the transformational leadership style, a leader at one instance can also be a follower in another instance. Thus there is element of flexibility in the relationships.

iii. Traditional leadership is more focused in getting the work done in routine environment. Traditional leaders are effective in achieving the set objectives and goals whereas transformational leaders have behavioural capacity to recognize and react to paradoxes, contradictions and complexities in the environment. Transformational leadership style is more focus on the special skills or talents that the leaders must have to practice to face challenging situations. Transformational leaders work to change the organisational culture by implementing new ideas.
iv. In traditional leadership, followers are loyal to the position and what it represents rather than who happens to be holding that position whereas in transformational leadership followers dedicate and admire the quality of the leader not of its position.

6. The organisation can implement the desired changes in its structure, technology and people through three phases of the change process as given by Kurt Lewin. These stages are: **unfreezing, changing and refreezing**.

   (i) **Unfreezing the situation**: Unfreezing is the process of breaking down the old attitudes and behaviours, customs and traditions.

   (ii) **Changing to new situation**: Once the unfreezing process has been completed, members' behaviour patterns need to be redefined. This can be done through compliance (through rewards and punishment), identification (impressing people to identify with new patterns) and internalisation (changing the thought processes).

   (iii) **Refreezing**: Refreezing occurs when the new behaviour becomes a normal way of life replacing the former behaviour completely for successful and permanent change to take place.

   Change process is not a onetime application but a continuous process due to dynamism and ever changing environment. The process of unfreezing, changing and refreezing is a cyclical one and remains continuously in action. By the change management process, organizations can better manage the required strategic change. In the given scenario, the company may:

   - Create awareness on compelling reasons for change.
   - Steer the organization on the desired path with wide acceptance.
   - Implement and install the necessary changes in the desired manner for the overall benefit of the organisation.
   - Aim to stabilize the operation at a higher level of performance.

7. Business Process Reengineering (BPR) is an approach to unusual improvement in operating effectiveness through the redesigning of critical business processes and supporting business systems. It is revolutionary redesign of key business processes that involves examination of the basic process itself. It looks at the minute details of the process, such as why the work is done, who does it, where is it done and when it is done. BPR refers to the analysis and redesign of workflows and processes both within the organization and between the organization and the external entities like suppliers, distributors, and service providers.

   The orientation of redesigning efforts is basically radical. In other words, it is a total deconstruction and rethinking of business process in its entirety, unconstrained by its existing structure and pattern. Its objective is to obtain quantum jump in process performance in terms of time, cost, output, quality, and responsiveness to customers. BPR is a revolutionary redesigning of key business processes. BPR involves the following steps:
i. **Determining objectives and framework:** Objectives are the desired end results of the redesign process which the management and organization attempts to achieve. This will provide the required focus, direction, and motivation for the redesign process. It helps in building a comprehensive foundation for the reengineering process.

ii. **Identify customers and determine their needs:** The designers have to understand customers – their profile, their steps in acquiring, using and disposing a product. The purpose is to redesign business process that clearly provides added value to the customer.

iii. **Study the existing process:** The existing processes will provide an important base for the redesigners. The purpose is to gain an understanding of the ‘what’, and ‘why’ of the targeted process. However, some companies go through the reengineering process with clean perspective without laying emphasis on the past processes.

iv. **Formulate a redesign process plan:** The information gained through the earlier steps is translated into an ideal redesign process. Formulation of redesign plan is the real crux of the reengineering efforts. Customer focused redesign concepts are identified and formulated. In this step alternative processes are considered and the best is selected.

v. **Implement the redesign:** It is easier to formulate new process than to implement them. Implementation of the redesigned process and application of other knowledge gained from the previous steps is key to achieve dramatic improvements. It is the joint responsibility of the designers and management to operationalise the new process.