

MOCK TEST PAPER – 2
IPCC/PCC: GROUP – II
PAPER –7/6: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT
SECTION – A: INFORMATION TECHNOLOGY
SUGGESTED ANSWERS/HINTS

1. (a) Importance of a “Control Unit” in a computer system is discussed below.

The control unit extracts instructions from memory, decodes and executes them, and sends the necessary signals to the ALU to perform the operation needed. The CPU's instructions for carrying out commands are built into the control unit. The instructions, or instruction set, list all the operations that the CPU can perform. Each instruction in the instruction set is expressed in microcode- a series of basic directions that tell the CPU how to execute more complex operations. Before a program can be executed, every command in it must be broken down into instructions that correspond to the ones in the CPU's instruction set. When the program is executed, the CPU carries out the instructions, in order, by converting them into microcode. All the computer's resources are managed from the control unit.

- (b) The Difference between 3 GLs and 4 GLs are discussed below.

Sl. No.	Third-Generation Languages (3 GLs)	Fourth-Generation Languages (4 GLs)
1.	It is intended for use by professional programmers.	It may be used by a non-programming end-programmers, end users as well as a professional programmer.
2.	It requires specification of how to perform the task.	It requires specification of what task to perform (system determines how to perform the task).
3.	It requires that all alternatives be specified.	It is having default alternatives built in; end user need not specify these alternatives.
4.	It requires large number of procedural instructions.	It requires far fewer instructions (less than one-tenth in most cases).
5.	The code may be difficult to read, understand and maintain.	The code is easy to understand and maintain because of English-like commands.
6.	The language developed originally for batch operation.	The language developed primarily for on-line use.

7.	It can be difficult to learn.	Many features can be learned quickly.
8.	It is difficult to debug the error.	Errors easier to locate because of short programs, more structured code, and use of defaults and English-like language.
9.	The approach is typically file-oriented.	The approach is typically data base oriented.

Note: The student may discuss any two points.

(c) There are various types of relational keys which are discussed below.

- (i) **Candidate Key:** A Candidate key is any set of one or more columns whose combined values are unique among all occurrences (i.e., tuples or rows). Since a null value is not guaranteed to be unique, no component of a candidate key is allowed to be null. There can be any number of candidate keys in a table.
- (ii) **Primary Key:** The primary key of any table is any candidate key of that table which the database designer arbitrarily designates as "primary". The primary key may be selected for convenience, comprehension, performance, or any other reasons. It is entirely proper to change the selection of primary key to another candidate key.
- (iii) **Alternate Key:** The alternate keys of any table are simply those candidate keys which are not currently selected as the primary key. An alternate key is a *function* of all candidate keys *minus* the primary key. The primary key of each contribution table is inherited so that this table has a compound primary key.
- (iv) **Secondary Key:** Secondary keys can be defined for each table to optimize the data access. They can refer to any column combination and helps to prevent sequential scans over the table. Like the primary key, the secondary key can consist of multiple columns. Therefore, a candidate key which is not selected as a primary key is known as secondary key.

Note : Students may discuss any two points.

(d) The difference between Circuit Switching and Packet Switching are discussed below.

S.No	CIRCUIT SWITCHING	PACKET SWITCHING
1	A dedicated path is used throughout the data transmission.	Each packet is transmitted through different routes.
2	It is more reliable because of the availability of a circuit dedicated for a session.	It is less reliable because non-availability of dedicated lines.
3	Circuit switching is old and expensive.	Packet switching is more modern and less expensive.

Note: - Student may discuss any two points.

- (e) **Bullwhip Effect in Supply Chain Management:** The Bullwhip Effect or Whiplash Effect is an observed phenomenon in forecast driven distribution channels. Because customer demand is rarely perfectly stable, business must forecast demand in order to properly position inventory and other resources. Because of forecast errors, companies often carry an inventory buffer called safety stock. Moving up the supply chain from end consumer to raw materials supplier, each supply chain participant has greater observed variations in demand and thus greater need for safety stock. In periods of rising demand, downstream participants will increase their orders. In periods of falling demand, orders will fall in order to reduce inventory. The effect is that variations are amplified the farther you get from the end-consumer. Supply chain experts call it as Bullwhip effect.

2. (a) The advantages of Direct access devices are:

- (i) Magnetic rigid disk is direct access storage medium; therefore, individual records can be retrieved without searching through the entire file.
- (ii) The costs of disks are steadily declining.
- (iii) For real-time systems where direct access is required, disks are currently the only practical means of file storage. Other new types of storage, such as bubble storage, are not widely used yet.
- (iv) Records can be readily updated by writing the new information over the area where the old information was stored.
- (v) With removable disk packs, a single disk drive can store large quantities of data although all but one of the disks is offline at any given point in time. However, being offline is not a disadvantage for many applications, especially batch applications.
- (vi) Interrelated files stored on magnetic disk can allow a single transaction to be processed against all of these files simultaneously.
- (vii) Data corruption rate is much less than other storage media like floppy disk, magnetic tapes.

The disadvantages of Direct access devices are:

- (i) Security of information stored on magnetic disks which are used as shared, is major concern.
- (ii) Regular 'head' crashes can damage the surface of the disk, leading to loss of data in that sector.
- (iii) The disk is fixed inside the computer and cannot easily be transferred to another computer.
- (iv) Updating a master file stored on disk destroys the old information. Therefore, disk does not provide an automatic audit trail. When disk is used, back-up and

audit trail require that each old master file records be copied to another medium prior to update.

Note : Student may discuss any four advantages and disadvantages.

(b) The storage capacity of magnetic disk is determined by using:

Storage capacity= No. of recording platters X No. of track per platter X No. of sectors per track X No. of bytes per sector

So, Total storage capacity = $48 \times 4000 \times 200 \times 1024 / 1024 \times 1024 \times 1024$
= Approx. 36.62 GB

3. (a) Salient features of Hierarchical Database are discussed below.

In a hierarchical database, records are logically organized into hierarchy of relationship. It is arranged in an inverted tree pattern. The following are salient features of hierarchical database.

- (i) Database structure is less flexible as relationships between records are relatively fixed by the structure.
- (ii) It requires that hierarchy of records must be determined and implemented before a search.
- (iii) Ad hoc queries are difficult and time consuming to accomplish.
- (iv) Frequent management queries may not be supported as effectively.
- (v) Day to day operational data can be processed rapidly.
- (vi) Any group of records with natural relation may fit nicely.
- (vii) Records are logically structured in inverted tree pattern.
- (viii) It provides the parent – child relationship amongst the nodes.
- (ix) It implements one-to-one and one-to-many relationship.

(b) Stages in Data Mining are discussed below.

- (i) **Selection:** Selecting or segmenting the data according to some criteria so that subsets of the data can be determined. For example, all those people who own a car can be determine for selection.
- (ii) **Pre-processing:** This is the data cleansing stage where certain information is removed which is deemed unnecessary and may slow down queries. Also the data is re-configured to ensure a consistent format as there is a possibility of inconsistent formats because the data is drawn from several sources.
- (iii) **Transformation:** The data is not merely transferred across but transformed in that overlays may be added. For example, demographic overlays are commonly used in market research. The data is made usable and navigable.

- (iv) **Data Mining:** This stage is concerned with the extraction of patterns from the data. A pattern can be defined as a given set of facts (data) F , a language L and some measures of certainty C . A pattern in a statement S in L that describe relationships among a subset F_s of F with a certainty C such that S is simpler in some sense than the enumeration of all the facts in F_s .
- (v) **Integration and evaluation:** The patterns identified by the systems are interpreted into knowledge which can then be used to support human decision making. For example, prediction and classification tasks, summarizing the contents of a data base or explaining observed phenomena.

4. (a) Characteristics of C/S Technology:

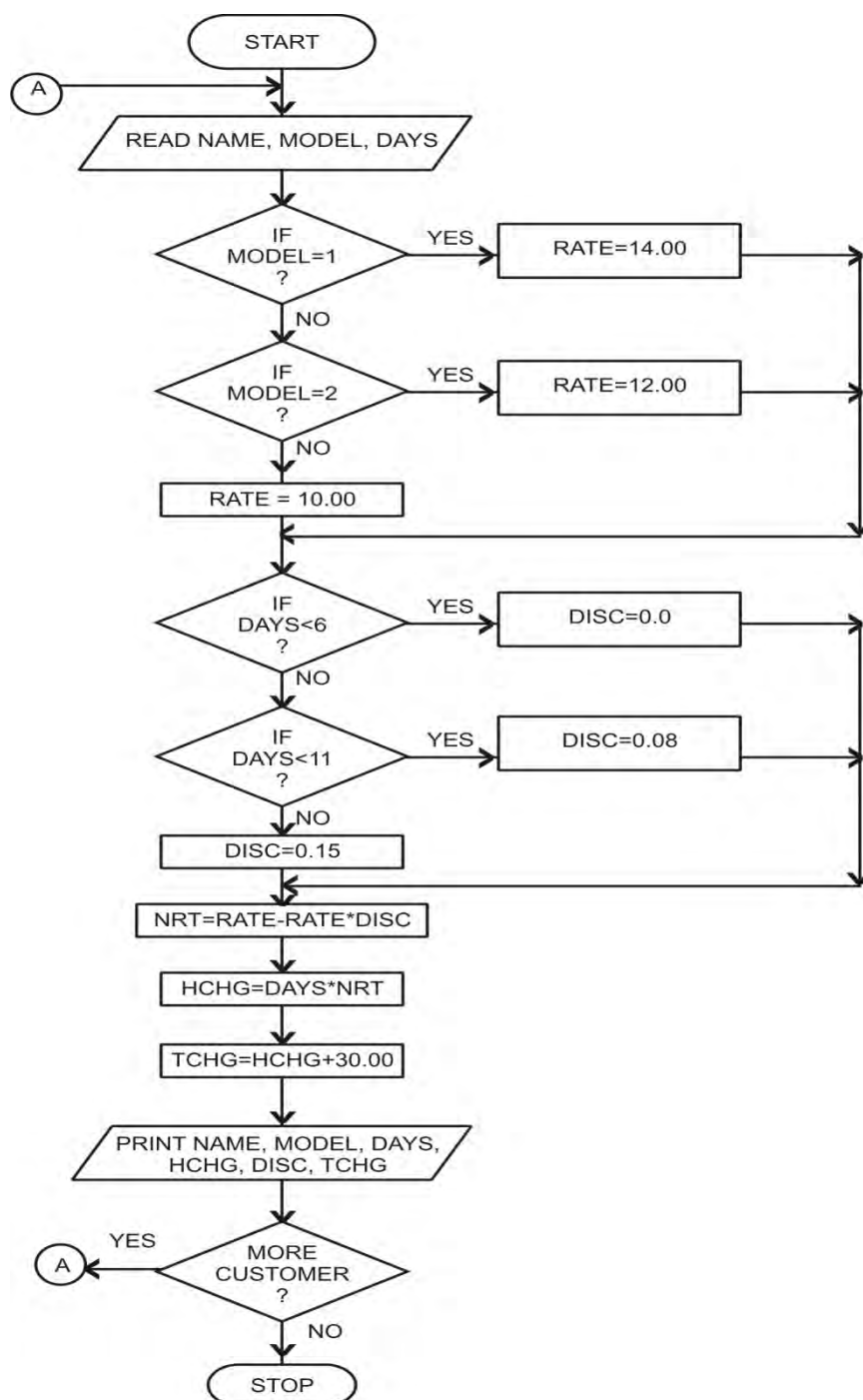
- (i) It consists of a client process and a server process that can be distinguished from each other.
- (ii) The client portion and the server portion can operate on separate computer platforms.
- (iii) Either the client or the server platform can be upgraded without having to upgrade the other platform.
- (iv) The server is able to service multiple clients concurrently.
- (v) The system includes some sort of networking capability.
- (vi) A significant portion of the application logic resides at the client end.
- (vii) Action is usually initiated at the client end and not the server end.
- (viii) A user-friendly graphical user interface (GUI) generally resides at the client end.
- (ix) A structured query language (SQL) capability is available to client server system.
- (x) Database server provides data protection and security.

(b) Implementation of Network Security programs involve following eight steps.

- (i) **Preparing project plan for enforcing security:** The project plan components are at first outlining the objectives of the review followed by in sequence determining the scope of the review and tasks to be accomplished, assigning tasks to the project team after organizing it, preparing resources budget which will be determined by the volume and complexity of the review and fixing a target / schedule for task completion.
- (ii) **Assets identification :** Assets which need to be safeguarded can be identified and subdivided into Personnel, Hardware, Facilities, Documentation, Supplies, Data, Application Software and System Software.

- (iii) **Assets valuation** : The process of valuation can differ depending on who is asked to render the valuation, the way in which the asset can be lost and the period for which it is lost and how old is the asset. Valuation of physical assets cannot be considered apart from the valuation of the logical assets. For example, the replacement value of the contents in a micro computer's hard disk may be several times more than the replacement value of the disk itself.
- (iv) **Threats identification**: The source of a threat can be external or internal and the nature of a threat can be accidental / non-deliberate or deliberate needs to be identified. The example of a non-deliberate external threat is an act of God, non-deliberate internal threat is pollution, deliberate external threat is hackers, and deliberate internal threat is employees. More exhaustively, the sources of threat are the Nature or acts of God.
- (v) **Threats probability of occurrence assessment**: The fifth step in a security review is assessment or the probability of occurrence of threats over a given time period. It is not difficult if prior period statistical data is available. If however, prior period data is not available, it has to be elicited from the associated stakeholders like end users and the management.
- (vi) **Exposure analysis** :The sixth step involves firstly identifying the controls in the place, secondly assessing the reliability of the existing controls, thirdly evaluating the probability that a threat can be successful and lastly assessing the resulting loss if the threat is successful. For each asset and each threat the expected loss can be estimated as the product of the probability of threat occurrence, probability of control failure and the resulting loss if the threat is successful.
- (vii) **Controls adjustment**: The seventh step is the adjustment of controls which means whether over some time period any control can be designed, implemented and operated such that the cost of control is lower than the reduction in the expected losses. The reduction in the expected losses is the difference between expected losses with the (i) existing set of controls and (ii) improved set of controls.
- (viii) **Report generation documentation for individual systems, end user, etc.:** The last step is report generation documenting, the findings of the review and specially recommending new assets safeguarding techniques that should be implemented and existing assets safeguarding mechanisms that should be eliminated / rectified, and also recommending the assignment of the levels of security to be pervaded for individual end users and systems.

5. (a) The required flow chart is discussed below.



(b) Advantages of using a Decision Table are as follows.

- (i) A decision table provides a framework for a complete and accurate statement of processing or decision logic. It forces a discipline on the programmer to think through all possible conditions.
- (ii) A decision table may be easier to construct than a flow chart.
- (iii) A decision table is compact and easily understood making it very effective for communication between analysts or programmers and non-technical users.
- (iv) Direct conversion of decision table into a computer program is possible. Software packages are available which take the statement specifying a decision table and compile it into a program.
- (v) It is possible to check that all test combinations have been considered.
- (vi) Alternatives are shown side by side to facilitate analysis of combinations.
- (vii) The table shows cause and effect relationships and use standardized format.
- (viii) Typists can copy tables with virtually no question or problems.
- (ix) Complex tables can easily be split into simpler tables.
- (x) Decision Table users are not required to possess computer knowledge.

Disadvantages of using a Decision Table are as follows.

- (i) **Total sequence:** The total sequence is not clearly shown i.e., no overall picture is given by decision tables as presented by flow charts.
- (ii) **Logic:** Where the logic of a system is simple, flowcharts nearly always serve the purpose better than a decision table.

6. (a) Electronic Data Interchange (EDI) : EDI is the transmission, in a standard syntax, of unambiguous information of business or strategic significance between computers of independent organizations.

In simple terms, EDI is computer-to-computer communication using a standard data format to exchange business information electronically between independent organizations. EDI no longer merely aids in transmitting documents, but dynamically moves data between companies' computer systems. The computer-to-computer transfer can be direct, between two companies using an agreed upon data protocol, or it can be performed by a third-party service vendor. Users can transmit business documents such as purchase orders, price quotes, shipping notices, and even payment orders electronically to customers and suppliers. The format for data transmission between trading partners via common carrier, is governed by a predetermined and institutionally agreed upon set standards.

Advantages of Electronic Data Inter change (EDI) areas stated below.

- (i) **Issue and receive orders faster:** Since most purchasing transactions are routine, they can be handled automatically, utilizing the staff for more demanding and less routine tasks.
- (ii) **Make sales more easily:** Quotes, estimates, order entry and invoicing will proceed more smoothly and efficiently. Orders received electronically ensure that information is available immediately, so that an organization can respond faster and be more competitive.
- (iii) **Get paid sooner:** Invoices received electronically can be reconciled automatically, which means they are ear marked for fast payment. Inturn, the purchase department is in aposition to negotiate for better terms including faster payments.
- (iv) **Minimize capital tied up in inventory:** For manufacturing organization with a just-in-time strategy, the right balance is crucial, but every organization stands to benefit from reducing order lead times.
- (v) **Reduce letters and memos:** Letters and memos do not follow rigid rules for formatting. They can be handled by an electronic mail system.
- (vi) **Decrease enquiries:** Customers or suppliers can make directon-line enquiries on product availability, or other non-sensitive information instead of consuming the staff's precious time.
- (vii) **Make bulk updates of catalogues and parts listings :**One can provide updates of data files, such as catalogues to customers or part listings to franchisees.

Note:- Students may discuss any four advantages.

(b) General Management Concerns in E-Commerce are as follows.

- (i) **Loss of Paper audit trail:** Since no paper work is involved in doing the business transactions electronically, hence keeping the track of business activities will be difficult.
- (ii) **Business Continuity:** In E-Commerce, all the transactions are done with the help of computers, hence if computer system fails then entire business organization will be paralyzed.
- (iii) **Exposure of data to third parties:** Due to sharing of data among organizations, there is possibility of exposure of secret information to other parties.
- (iv) **Record retention:** Electronic information is required to be kept safely as a statutory requirement, therefore organizations will have to take appropriate measures for the safety of data.

- (v) **Segregation of duties:** There are more chances of fraud in an electronic environment. Hence, duties of various persons working in electronic environment must be properly defined, in order to fix their responsibilities at later stages.
 - (vi) **Legal Liability:** The inability to complete transactions or meet deadlines, or the risk of inadvertently exposing information of trading partners poses legal risks.
7. (a) **Spooling software:** The purpose of spooling software is to compensate for the speed differences between the computer and its peripheral devices. Spooling software is usually encountered in large system and network computing environments. To preclude the computer from being slowed down by input and output devices, many computer systems employ spooling software. These programs take the results of computer programs and move them from primary memory to disk. The area on the disk where the program results are sent is commonly called the output spooling area. Thus, the output device can be left to interact primarily with the disk unit, not the CPU. Spooling utilities can also be used on the input side, so that programs and data to be processed are temporarily stored in an input spooling area on disk.
- (b) **Data Definition Language (DDL):** It defines the conceptual schema providing a link between the logical and physical structures of the database. The logical structure of a database is a schema. A subschema is the way a specific application views the data from the database.

Following are the functions of Data Definition Language (DDL):

- (i) They define the physical characteristics of each record, field in the record, field's type and length, field's logical name and also specify relationships among the records.
- (ii) They describe the schema and subschema.
- (iii) They indicate the keys of the record.
- (iv) They provide means for associating related records or fields.
- (v) They provide for data security measures.
- (vi) They provide for logical and physical data independence.

Note: Students may discuss any four points.

- (c) **Integrated Services Digital Network (ISDN):** It is a system of digital phone connections to allow simultaneous voice and data transmission across the world. Such voice and data are carried by bearer channels (B channels) having a bandwidth of 64 kilobits per second. A data channel can carry signals at 16 kbps or 64 kbps, depending on the nature of service provided. There are two types of ISDN

service – Basic Rate Interface (BRI) and Primary Rate Interface (PRI) BRI consists of two 64 kbps B channels and one 16 kbps D channel for a total of 144 kbps and is suitable for individual users. PRI consists of twenty three B channels and one 64 kbps D channel for a total of 1536 kbps and is suitable for users with higher capacity requirements. It is possible to support multiple primary PRI lines with one 64 kbps D channel using Non Facility Associated Signaling (NFAS). ISDN allows multiple digital channels to be operated simultaneously through the same regular phone cable meant for analog signals.

- (d) **Bluetooth:** It is a specification that describes how mobile phones, computers and personal digital assistants (PDA) can be easily interconnected using a short range wireless connections. Using this technology, user of cell phone and PDA can get quickly synchronized with information in desktop or notebook, initiate the sending or receiving of a fax, initiate a print out or in general, have a total coordination between these devices. Bluetooth requires that a low cost transceiver chip be included in each device. The transceiver transmits and receives in a frequency band of 2.45 GHz that is available globally. In addition to data, upto three voice channels are available. Each device has a unique 48 bit address from the IEEE 802 standard. Connection can be point-to-point or multipoint. The maximum range is 10 meters. Data can be exchanged at a rate of 1Mbps. Built-in encryption and verification module is provided. A frequency hop scheme allows devices to communicate even in areas with great deal of electromagnetic interference.
- (e) **Extranet:** An Extranet is an extension of an Intranet that makes the latter accessible to outside companies or individuals with or without an Intranet. It is also defined as a collaborative Internet connection with other companies and business partners. Parts of an Intranet are made available to customers or business partners for specific applications. The Extranet is thus an extended Intranet, which isolates business communication from the Internet through secure solutions. Extranets provide the privacy and security of an Intranet while retaining the global reach of the Internet. It extends the Intranet from one location to another across the Internet by securing data flows using cryptography and authorization procedures, to another Intranet of a business partner. Companies can use an extranet to exchange large volumes of data, share product catalogs exclusively with wholesalers , collaborate with other companies on joint development efforts, jointly develop and use training programs with other companies, provide or access services provided by one company to a group of other companies, share news of common interest exclusively with partner companies etc.

MOCK TEST PAPER – 2

IPCC/PCC: GROUP – II

PAPER –7/6: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT

SECTION – B: STRATEGIC MANAGEMENT

SUGGESTED ANSWERS / HINTS

1. (a) Mission is a statement which defines the role that an organization plays in the society. While objectives are the ends that state specifically how the goals shall be achieved. A book publisher and a magazine editor are both involved in satisfying the information required by the society, but they perform the work in different ways. A book publisher may intend to produce excellent reading material while a magazine editor may try to present news analysis in a balanced and unbiased manner. Both have different objectives but an identical mission.
- (b) Cost leadership and differentiation is possible through providing the product/service at low cost through technologies that enable differentiation through focus on niche segments. Developments in process technology have made it possible to offer a wider variety of products and yet keep the cost low. An organization that produces through mass production, but can use technological means to create variety in the product/service can sometimes combine the benefits of low cost and differentiation. For ex. Different features in mobile phones at alternative prices.
- (c) Enterprises pursue multiple objectives rather than a single objective. In general, we may identify a set of business objectives pursued by a large cross-section of enterprises. Enterprises seek to balance these objectives in some appropriate manner. Some of the important objectives of business are survival, stability, growth, efficiency, profitability, competitive strength, productive efficiency and diversification.
- (d) Turnaround strategy is used when both threats and weaknesses adversely affect the health of an organization so much that its basic survival is a question. When firms are losing their grips over market, profits due to several internal and external factors, and if they have to survive under the competitive environment they have to identify danger signals as early as possible and undertake rectification steps immediately. These conditions may be, inter alia cash flow problems, lower profit margins, high employee turnover and decline in market share, capacity underutilization, low morale of employees, recessionary conditions, mismanagement, raw material supply problems and so on.
- (e) The type of government running a country is a powerful influence on business. Businesses are highly guided and influenced by government actions. Change in the elected government relates to the change in political environment. To an extent, even legal environment may change with the changes in the Government. It has a

strong bearing on the conduct of business as it leads to significant changes in the economic policies and the regulatory framework. The government's policy of promoting select sectors further impacts the functioning of business organizations.

Businesses are affected by the factors such as political stability, the political ideology and practices of the ruling party, the purposefulness and efficiency of governmental agencies, the extent and nature of governmental intervention in the economy and the industry, Government policies (fiscal, monetary, industrial, labour and export-import policies), specific legal enactments and framework and so on.

2. (a) (i) **Correct:** There are three strategic levels – corporate, business and functional. Control systems are required at all the three levels. At the top level, strategic controls are built to check whether the strategy is being implemented as planned and the results produced by the strategy are those intended. Down the hierarchy management controls and operational controls are built in the systems. Operational controls are required for day-to-day management of business.
 - (ii) **Correct:** The human resource management helps the organization to effectively deal with the external environmental challenges. The function has been accepted as a partner in the formulation of organization's strategies and in the implementation of such strategies through human resource planning, employment, training, appraisal and rewarding of personnel.
 - (b) (i) Strategic groups.
 - (ii) SBU.
 - (iii) Customers.
3. (a) **Demarketing:** Marketing strategies to reduce demand temporarily or permanently- the aim is not to destroy demand, but only to reduce or shift it. This happens when there is overfull demand. For example, buses are overloaded in the morning and evening, roads are busy for most of times, zoological parks are over-crowded on Saturdays, Sundays and holidays. Here demarketing can be applied to regulate demand.
 - (b) Retrenchment strategy implies substantial reduction in the scope of organization's activity. A business organization can redefine its business by divesting a major product line or market. While retrenching organizations might set objectives below the past level of objectives. It is essentially a defensive strategy adopted as a reaction to operating problems stemming from either internal mismanagement, unanticipated actions by competitors or hostile and unfavourable changes in the business environmental conditions. With a retrenchment strategy the endeavour of management is to raise the level of enterprise achievements focusing on improvements in the functional performance and cutting down operations with negative cash flows.

- (c) A strategic vision delineates organisation's aspirations for the business, providing a panoramic view of the position where the organisation is going. A strategic vision points an organization in a particular direction, charts a strategic path for it to follow in preparing for the future, and moulds organizational identity. A strategic vision is a road map of a company's future – providing specifics about technology and customer focus, the geographic and product markets to be pursued, the capabilities it plans to develop, and the kind of company that management is trying to create.
4. (a) Supply chain management is an extension of logistic management. However, there are differences between the two. Logistical activities typically include management of inbound and outbound goods, transportation, warehousing, handling of material, fulfilment of orders, inventory management, supply/demand planning. Although these activities also form part of supply chain management, the latter is much broader. Logistic management can be termed as one of its part that is related to planning, implementing, and controlling the movement and storage of goods, services and related information between the point of origin and the point of consumption.
- Supply chain management is an integrating function of all the major business activities and business processes within and across organisations. Supply Chain Management is a systems view of the linkages in the chain consisting of different channel partners – suppliers, intermediaries, third-party service providers and customers. Different elements in the chain work together in a collaborative and coordinated manner. Often it is used as a tool of business transformation and involves delivering the right product at the right time to the right place and at the right price.
- (b) The business environment consists of both the macro environment and the micro environment. Following are the differences between the two:
- The micro environment refers to the forces that are very close to the company and affect its ability to do routine functions. Macro environment refers to all forces that are part of the larger periphery and distantly affect organization and micro environment.
 - Micro environment includes the company itself, its suppliers, marketing intermediaries, customer markets and competitors. Whereas macro environment includes demography, economy, natural forces, technology, politics, legal and socio-cultural.
 - The elements of micro environment are specific to the said business and affects it's working on short term basis. The elements of macro environment are general environment and affect the working of all the firms in an industry.
5. The accelerating pace at which information technology has developed during the past few years had a very large impact in the transformation of business processes. Various

studies have conclusively established the role of information technology in the transformation of business processes. That information technology is going to play a significant role in changing the business processes during the years to come, has been established beyond doubt.

A reengineered business process, characterised by IT-assisted speed, accuracy, adaptability and integration of data and service points, is focussed on meeting the customer needs and expectation quickly and adequately, thereby enhancing his/her satisfaction level.

Globalization and competition call for better management, faster response to change and adherence to globally accepted standards of quality and services.

- .. Impact of IT-systems are identified as:
- .. Compression of time
- .. Overcoming restrictions of geography and/or distance
- .. Restructuring of relationships.

IT-initiatives, thus, provide business values in three distinct areas:

- .. Efficiency – by way of increased productivity,
- .. Effectiveness – by way of better management,
- .. Innovation – by way of improved products and services

All these can bring about a radical change in the quality of products and services, thereby improving the competitiveness and customer satisfaction. Information technology (IT) is a critical factor in the success of bringing this change.

6. There are four types of strategic control as follows:

- **Premise control:** A strategy is formed on the basis of certain assumptions or premises about the complex and turbulent organizational environment. Over a period of time these premises may not remain valid. Premise control is a tool for systematic and continuous monitoring of the environment to verify the validity and accuracy of the premises on which the strategy has been built. It primarily involves monitoring two types of factors:
 - (i) Environmental factors such as economic (inflation, liquidity, interest rates), technology, social and regulatory.
 - (ii) Industry factors such as competitors, suppliers, substitutes.
- **Strategic surveillance:** Contrary to the premise control, the strategic surveillance is unfocussed. It involves general monitoring of various sources of information to uncover unanticipated information having a bearing on the organizational strategy. It involves casual environmental browsing. Reading financial and other newspapers,

business magazines, meetings, conferences, discussions at clubs or parties and so on can help in strategic surveillance.

- **Special alert control:** At times unexpected events may force organizations to reconsider their strategy. Sudden changes in government, natural calamities, terrorist attacks, unexpected merger/acquisition by competitors, industrial disasters and other such events may trigger an immediate and intense review of strategy. Organizations to cope up with these eventualities, form crisis management teams to handle the situation.
- **Implementation control:** Managers implement strategy by converting major plans into concrete, sequential actions that form incremental steps. Implementation control is directed towards assessing the need for changes in the overall strategy in light of unfolding events and results associated with incremental steps and actions.

Strategic implementation control, unlike operational controls continuously monitors the basic direction of the strategy. The two basic forms of implementation control are:

- (i) **Monitoring strategic thrusts:** Monitoring strategic thrusts help managers to determine whether the overall strategy is progressing as desired or whether there is need for readjustments.
- (ii) **Milestone Reviews:** All key activities necessary to implement strategy are segregated in terms of time, events or major resource allocation. It normally involves a complete reassessment of the strategy.

7. Industry and competitive analysis can be done using a set of concepts and techniques to get a clear understanding of key industry traits, the intensity of competition, the drivers of industry change, the market positions and strategies of rival companies, the keys to competitive success, and the industry's profit outlook. The factors that can be analysed are:

Dominant economic features of the industry

Industries differ significantly in their basic character and structure. Industry and competitive analysis begins with an overview of the industry's dominant economic features. The factors to consider in profiling an industry's economic features are market size, scope of competitive rivalry (local, regional, national, international, or global), market growth rate and position in the business life, number of rivals and their relative sizes, number of buyers and their relative sizes and so on.

Nature and strength of competition

An important component of industry and competitive analysis is to identify what the main sources of competitive pressure are and how strong each competitive force is. This analytical step is essential because managers cannot devise a successful strategy without in-depth understanding of the industry's competitive character. Even though

competitive pressures in various industries are never precisely the same, the competitive process works in a similar fashion to use a common analytical framework in gauging the nature and intensity of competitive forces.

Triggers of change

An industry's economic features and competitive structure say a lot about its fundamental character but little about the ways in which its environment may be changing. All industries are characterized by trends and new developments that gradually produce changes important enough to require a strategic response.

Identifying the companies that are in the strongest/weakest positions

The next step in examining the industry's competitive structure is to study the market positions of rival companies. One technique for revealing the competitive positions of industry participants is **strategic group mapping**, which is useful analytical tool for comparing the market positions of each firm separately or for grouping them into like positions when an industry has so many competitors that it is not practical to examine each one in depth.

Likely strategic moves of rivals

Unless a company pays attention to what competitors are doing, it ends up flying blind into competitive battle. A company can't expect to outmanoeuvre its rivals without monitoring their actions, understanding their strategies, and anticipating what moves they are likely to make next. Competitive intelligence about the strategies rivals are deploying, their latest moves, their resource strengths and weaknesses, and the plans they have announced is essential to anticipating the actions they are likely to take next and what bearing their moves might have on a company's own best strategic moves.

Key factors for competitive success

Key Success Factors (KSFs) are those things that most affect industry members' ability to prosper in the marketplace - the particular strategy elements, product attributes, resources, competencies, competitive capabilities, and business outcomes that spell the difference between profit and loss and, ultimately, between competitive success or failure. KSFs by their very nature are so important that all firms in the industry must pay close attention to them.

Prospects and financial attractiveness of industry

The final step of industry and competitive analysis is to use the results of analysis of previous six issues to draw conclusions about the relative attractiveness or unattractiveness of the industry, both near-term and long-term. Strategists are obligated to assess the industry outlook carefully, deciding whether industry and competitive conditions present an attractive business opportunity for the company or whether the company's growth and profit prospects are gloomy.