

Test Series: February, 2012

MOCK TEST PAPER – 1

IPCC/PCC: GROUP – II

PAPER –7/6: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT

SECTION – A: INFORMATION TECHNOLOGY

Question No.1 is compulsory.

Attempt any five questions from the rest.

Time Allowed – 1½ Hours

Maximum Marks – 50

1. Answer all the following questions in brief.
 - (a) Differentiate between Static RAM and Dynamic RAM.
 - (b) What is motherboard? Discuss the importance of BIOS in computer system.
 - (c) What do you understand by knowledge database?
 - (d) Describe any four salient features of Wide Area Network.
 - (e) Differentiate between Internet and Intranet. (5 x 2 = 10 Marks)
2.
 - (a) Briefly discuss any four features of Central Processing Unit. (4 Marks)
 - (b) What do you mean by DSS? Discuss various components of a DSS. (4 Marks)
3.
 - (a) What is Index sequential file organization method . Discuss its important features. (4 Marks)
 - (b) What is documentation in SDLC? List out various types of documentations required to be prepared prior to delivery of customized software to a customer. (4 Marks)
4.
 - (a) Describe any six ways a computer network can help business. (4 Marks)
 - (b) Define Local Area Network? Describe its basic components. (4 Marks)
5.
 - (a) Draw a Flow Chart to find the smallest of three distinct numbers A,B,C. (4 Marks)
 - (b) What is a Decision Table? Discuss its various components. (4 Marks)
6.
 - (a) The major emphasis of ABC retail company is to provide the timely delivery of product and services to their existing customers. Timely delivery of goods and services leads to better customer satisfaction and would help company to achieve their goals. The company has decided to replace existing manual system of procurement of goods and services to automated systems for effective distribution of goods upto the level of customer satisfaction.
 - (a) To improve the effectiveness in distribution of goods & services, what are the areas where ABC Retail Company should focus upon? (4 Marks)

- (b) How ABC retail company would serve the customer in a better way and what are the bases/ factors that determine the customer satisfaction using automated system?

(4 Marks)

7. Write short notes on any *four* of the following.

- (a) Read Only Memory
- (b) Device Drivers
- (c) E/R Model
- (d) Application Server
- (e) M-Commerce

(4 × 2 = 8 Marks)

Test Series: February, 2012

MOCK TEST PAPER – 1

IPCC/PCC: GROUP – II

PAPER –7/6: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT

SECTION – B: STRATEGIC MANAGEMENT

Question No.1 is compulsory.

Attempt any five questions from the rest.

Time Allowed – 1½ Hours

Maximum Marks – 50

1. (a) If a firm is not performing well and the environment is turbulent, being a manager how will you strategically lead for improving the performance. (3 Marks)
- (b) Explain critically the competitive environment of an organization. (3 Marks)
- (c) How total quality management is based on continuous improvement and learning? (3 Marks)
- (d) This strategy may be unpleasant as a strategic alternative but when a “dead business is worth more than alive”, it is a good proposition. Extract the strategy from the statement and explain it. (3 Marks)
- (e) Is logistic management same as supply chain management? (3 Marks)
2. (a) State with reasons which of the following statements is correct/incorrect:
 - (i) Benchmarking and Business process Reengineering are one and the same.
 - (ii) Tele-shopping is an instance of direct marketing (2 × 2 = 4 Marks)
- (b) Fill in the blanks in the following statements with the most appropriate word:
 - (i) In Michael Porter's generic strategy, _____ emphasizes producing standardized products at a very low per unit-cost for consumers who are price-sensitive.
 - (ii) _____ helps in setting goals and measuring productivity based on best industry practices.
 - (iii) The process of creating, maintaining and enhancing strong, value-laden relationship with customers and other stakeholders is _____. (3 × 1 = 3 Marks)
3. Write short notes on the following:
 - (a) Six sigma (2 Marks)
 - (b) Augmented marketing (2 Marks)

(c) Elements of Marketing Mix (3 Marks)

4. A small scale industrialist recently attended a seminar on strategic management. She is quite enthusiastic but does not understand exactly how to use the SWOT analysis for her company. Act as a consultant and advise her on how to use the SWOT analysis. (7 Marks)
5. If a company wants to implement six sigma method for its new as well as existing products, what methodologies it should follow while implementation? (7 Marks)
6. Strategic management is partly proactive and partly reactive. Explain the statement. (7 Marks)
7. How organization is related to business environment. (7 Marks)

MOCK TEST PAPER – 1
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PAPER –7/6: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT
SECTION – A: INFORMATION TECHNOLOGY
SUGGESTED ANSWERS/HINTS

1. (a) Differentiation between Static RAM and Dynamic RAM are discussed below.

Static RAM: Static RAM is lot faster, larger and more expensive than Dynamic RAM. It does not need to be continually refreshed. The data remained stored in it as long as power remains on. Because of its speed, SRAM is used mainly in a special area of memory called cache.

Dynamic RAM: Dynamic RAM is most common type of main memory. It is dynamic because each memory cell quickly loses its charge so it must be refreshed hundreds of times each second to prevent data from being lost. The power consumption by DRAM is less than that of a SRAM. The most Dynamic RAM in use is Rambus DRAM.
- (b) The motherboard or the system board is the main circuit board on the computer. It acts as a direct channel for the various components to interact and communicate with each other. The motherboard contains the connectors for attaching additional boards.

Basic Input Output System is a small chip on the motherboard that loads the hardware settings required to load various devices like keyboards, monitors, or disk drives. It acts an interface between the operating system and the motherboard. It is a boot firmware program that controls the computer from the time we start it up until the operating system takes over. The BIOS also manages data flow between the computer's operating system and attached devices such as hard disk, video card, keyboard, mouse and printer.
- (c) A knowledge database system provides functions to define, create, modify, delete and read data in a system. The type of data maintained in a database system historically has been declarative data describing the static aspects of the real world objects and their associations. A database system can also be used to maintain procedural data describing the dynamic aspects of the real world objects and their associations, for example, several amended versions of enactments in the field of labour laws to facilitate management decisions in pay negotiations. When both the declarative and procedural data are stored in a database, it constitutes a knowledge database with more powerful data maintenance

- (d) Features of Wide Area Network are as follows.
- (i) Multiple user computers connected together to share the data.
 - (ii) Machines are spread over a wide geographic region.
 - (iii) Communications channels between the machines are usually furnished by a third party vendor.
 - (iv) Communications channels are relatively low capacity and error-prone.
- (e) The Internet is a network of computers that offers access to information and people. It is an information service that offers e-mail, bulletin boards, and information retrieval services that can access file directories and databases around the world.

Whereas, Intranet is a type of information system that facilitates communication within the organization, among widely dispersed departments, divisions and regional locations. Intranets connect people together with Internet technology using the Web Browsers, Web Servers and Data warehouses in a single view. With an Intranet, access to all information, applications and data can be made available through the same browser.

2. (a) The various features of Central Processing Units are discussed below.
- (i) **Clock Speed:** The clock speed is the speed at which the processor executes instructions. Clock speed is measured either in megahertz (MHz)-which is a million cycles per second or in gigahertz(GHz)- which is one-billion cycles per second. Higher the clock's speed, the faster the processor, the better the system performance.
 - (ii) **Cache:** Processors incorporate their own internal cache memory. The cache acts as temporary memory and boosts processing power significantly. The cache that comes with the processor is called Level One (L1) cache. This cache runs at the processor's clock speeds, and therefore is very fast. The L1 cache is divided into 2 sections—one for data, the other for instructions. Generally, more the L1 cache, faster the processor. PCs also include a much slower secondary, or Level Two (L2) cache. This cache resides on the motherboard and delivers slower performance when compared with the L1 cache.

The new type of cache known as L3cache is specialized memory that works hand-in-hand with L1 and L2 cache to improve computer performance. The advantage of having on-board cache is that it's faster, more efficient and less expensive than placing separate cache on the motherboard.
 - (iii) **Architecture:** The CPUs architecture determines the manner in which it processes data. CPUs employ multi-staged pipelines for transmitting data. To ensure proper data flow through these lines, the CPU includes a kind of prediction and error correction mechanism.

- (iv) **Slot:** Different processors use different sockets or slots to fit onto the motherboard. A CPU socket or CPU slot is an electrical component that attaches to a printed circuit board (PCB) and is designed to house a microprocessor. It is a special type of integrated circuit designed for very high pin counts. A CPU socket provides many functions, including providing a physical structure to support the CPU, providing support for a heat sink, facilitating replacement (as well as reducing cost) and most importantly forming an electrical interface both with the CPU and the PCB. Socket H, G32 and 34 are most popular socket used in computer system now-a-days.
- (v) **Density:** A CPU is made up of millions of small transistors. A CPU performs all the calculation and manipulation operations by synchronizing between the transistors. Therefore, the shorter the distance between two transistors on a CPU, the faster the performance.
- (vi) **MMX:** MMX stands for Multimedia Extensions—a set of instructions built in to the CPU, specifically intended for improving the performance of multimedia or graphic applications—mainly games. However, one needs to have applications specifically designed to take advantage of MMX.

Note: Students may discuss any four features.

- (b) **Decision Support System (DSS)** is a specific class of computerized information system that supports business and organizational decision-making activities. A properly designed DSS is an interactive software-based system intended to help decision maker to compile useful information from raw data, documents, personal knowledge, and/or business models to identify and solve problems and make decisions. A DSS may present information graphically and may include an expert system or artificial intelligence. DSS have also achieved broad use in accounting and auditing today.

Components of a DSS: A decision support system has four basic components: (i) The users, (ii) Database, (iii) Planning language, and (iv) Model base.

- (i) **The users:** The user of a Decision Support System (DSS) is usually a manager with an unstructured or semi-structured problem to solve. In fact, user does not require a computer background to use a DSS for problem solving. He must have thorough understanding of the problem and the factors to be considered in finding a solution.
- (ii) **Database:** DSS includes one or more databases. These databases contain both routine and non-routine data from both internal and external sources. The data from external sources include data about economic condition, market demand for goods and services and industry competition, whereas internal data includes data from the financial and managerial accounting system, marketing, production and personnel department.

- (iii) **Planning language:** Two types of planning languages are commonly used in DSS.
- **General Purpose:** These languages allow user to perform many routine tasks viz., retrieving various data from a database or performing statistical analysis, budgeting, forecasting and worksheet oriented problem. The languages used in most of the spread sheets are the good examples.
 - **Special purpose:** Special purpose planning languages are statistical languages viz., SAS, SPSS and Mini Tab. These languages perform statistical and mathematical operations.
- (iv) **Model Base:** The model base is the brain of the decision support system because it performs data manipulation and computations with the data provided to it by the user and database. Model base is custom developed model that does some types of mathematical functions viz., cross-tabulation, regression analysis, time series analysis, linear programming and financial computation. The analysis provided by the routines in the model base is the key to supporting the user's decision.
3. (a) The indexed sequential file organisation or indexed sequential access method (ISAM), is a hybrid between sequential and direct access file organisations. The records within the file are stored sequentially but direct access to individual records is possible through an index. It is a method of storing data for fast retrieval. In an ISAM system, data is organized into records which are composed of fixed length fields. Records are stored sequentially, originally to speed access on a tape system. A secondary set of hash tables known as *indexes* contain "pointers" into the tables, allowing individual records to be retrieved without having to search the entire data set.
- The key improvement in ISAM is that the indexes are small and can be searched quickly; allowing the database to then access only the records it needs. To locate a record, the cylinder index is searched to find the cylinder address, and then the track index for the cylinder is searched to locate the track address of the desired record. Following are the features of Index sequential file organization.
- (i) It permits the efficient and economical use of sequential processing technique when the activity ratio is high.
 - (ii) It allows direct access of records in a relatively efficient way when the activity ratio is low.
 - (iii) Access to the records is slower than direct file.
 - (iv) Relatively expensive hardware and software may be required.
 - (v) It is less efficient in the use of storage space than other alternatives.

- (b) Documentation is an important aspect of Software Development Life Cycle which provides a method to understand the various issues related with software development. It provides access details related to system study, system development, system testing, system operational details, details related to preventive maintenance and details associated with further modification aspects of the software.

The important documentations required to be prepared prior to delivery of customized software to customer which are as follows:

- (i) Strategic and Application Plans.
- (ii) Application Systems and Program Documentation.
- (iii) System Software and Utility Program Documentation.
- (iv) Database Documentation, Operation Manuals, User Manuals, Testing Manual, Standard Manual, Preventive Maintenance Manual, and Backup Manual are other important documentations.

4. (a) A computer network can help the business in following ways:

- (i) **File Sharing:** File sharing is the most common function provided by networks and consists of grouping all data files together on a server or servers. When all data files in an organization are concentrated in one place, it is much easier for staff to share documents and other data.
- (ii) **Print Sharing:** When printers are made available over the network, multiple users can print to the same printer. This facility can reduce the number of printers the organization must purchase, maintain and supply.
- (iii) **E-Mail:** Internal or "group" email enables the staff of an office to communicate with each other quickly and effectively. Group email applications also provide capabilities for contact management, scheduling and task assignment.
- (iv) **Fax Sharing:** Through the use of a shared modem(s) connected directly to the network server, fax sharing permits users to fax documents directly from their computers without ever having to print them out on paper.
- (v) **Remote Access:** Staff often requires access to their email, documents or other data from locations outside the office. A highly desirable network function and remote access allows users to dial in to an organization's network via telephone and access all the network resources that they can access when they're in the office.
- (vi) **Shared Databases:** Shared databases are an important subset of file sharing. If the organization maintains an extensive database, a network is the only effective way to make the database available to multiple users at the same time.

- (vii) **Fault Tolerance:** This is the process of making sure that there are several lines of defense against accidental data loss. Tape backups, servers attached to an uninterruptible power supply and redundant hardware are examples of such defense lines.
- (viii) **Internet Access and Security:** When computers are connected via a network, they can share a common network connection to the Internet. This facilitates email, document transfer and access to the resources available on the World Wide Web.
- (ix) **Communication and collaboration:** A network allows employees to share files, view other people's work, and exchange ideas more efficiently.
- (x) **Organization:** A variety of network scheduling software is available that makes it possible to arrange meetings without constantly checking everyone's schedules.

Note: Student may discuss any six points.

- (b) A local area network (LAN) is primarily a data transmission system intended to link computers and associated devices within a restricted geographical area such as an office building or several adjacent buildings. The linked computers and related equipments may be anything from full-scale mainframe computing systems to small desktop office workstations, terminals and peripherals etc. Organizations use LANs because they enable multiple users to share software, data and devices. LANs use a shared physical media, which is routed in the whole campus to connect various systems. LAN uses high-speed media (1Mbps to 30 Mbps or more) and are mostly privately owned and operated.

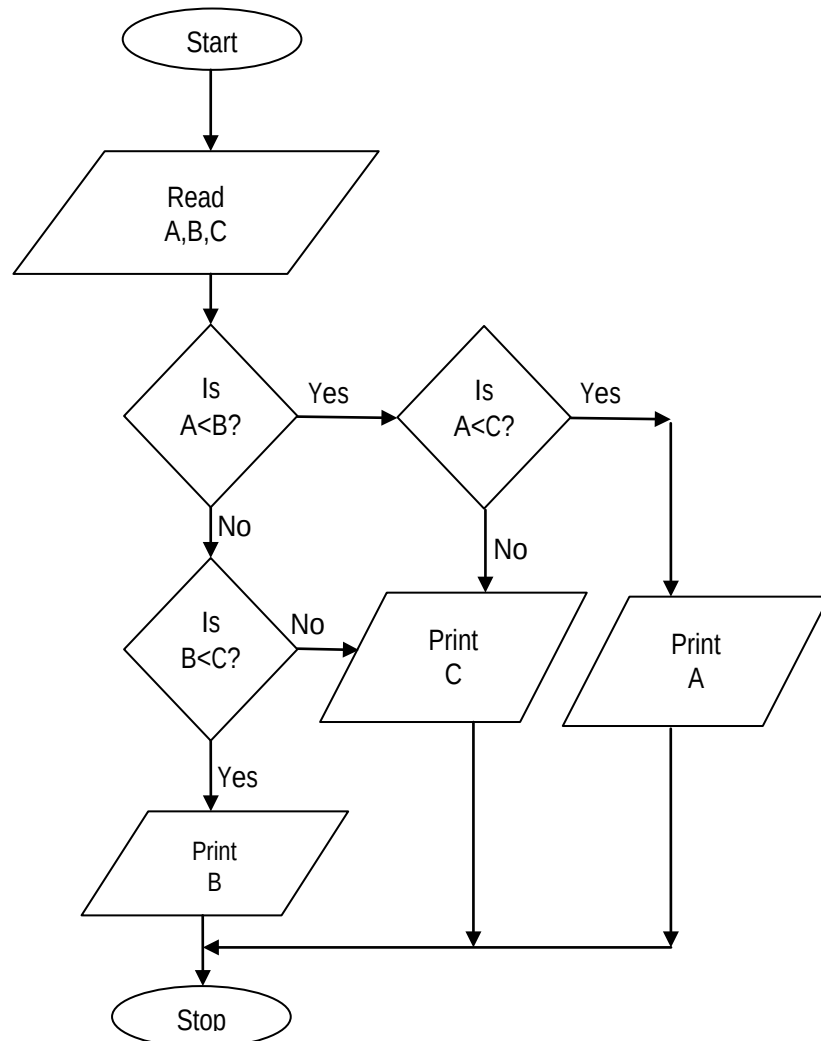
Local area network has following five components discussed below.

- (i) **File Server:** A network file server is a computer system used for the purpose of managing the file system, servicing the network printers, handling network communications, and other functions. A server may be dedicated in which case all of its processing power is allocated to network functions, or it may be non-dedicated which means that a part of the servers functions may be allocated as a workstation or DOS-based system.
- (ii) **The network operating system:** It is loaded into the server's hard disk along with the system management tools and user utilities. When the system is restarted, NetWare boots and the server come under its control.
- (iii) **Workstations:** Workstations are attached to the server through the Network Interface Card and the cabling. Workstations are normally intelligent systems, such as the IBM PC. The concept of distributed processing relies on the fact that personal computers attached to the networks perform their own processing after loading programs and data from the server. Hence, a

workstation is called an Active Device on the network. After processing, files are stored back on the server where they can be used by other workstations.

- (iv) **Network Interface Card:** Every device connected to a LAN needs a Network Interface Card (NIC) to plug into the LAN. For example, a PC may have an Ethernet card installed in it to connect to an Ethernet LAN.
- (v) **Network Cabling:** Once the server, workstations and network interface cards are in place, network cabling is used to connect everything together. The most popular type of network cable is the shielded twisted-pair, co-axial and fiber optic cabling.

5. (a) The flowchart is shown below.



- (b) A decision table is a precise yet compact way to model complicated logic which defines the possible contingencies that may be considered within the program and the appropriate course of action for each contingency.

The components of the decision table are as follows.

- (i) **Condition Statement** - Statement which introduce one or more conditions i.e., factors to consider in making a decision.
 - (ii) **Condition Entries** - Entries that complete condition statements.
 - (iii) **Action Statements** - Statements which introduce one or more actions i.e., steps to be taken when a certain combination of conditions exist.
 - (iv) **Action Entries** - Entries that complete the action statements.
 - (v) **Rules** - Unique combinations of conditions and actions to be taken under those conditions.
 - (vi) **Header**- Title identifying the table.
 - (vii) **Rule Identifiers** - Code (R1, R2, R3,) uniquely identifying each rule within a table.
 - (viii) **Condition Identifiers** - Codes (C1, C2, C3,...) uniquely identifying each condition statements/entry.
 - (ix) **Action Identifiers** - Codes (A1, A2, & A3...) uniquely identifying each action statement/entry.
6. (a) The following areas would be focused by the company for effectiveness in distribution of goods and services to the customer.
- (i) **Fulfillment:** Ensuring the right quantity of parts for production or products for sale arrive at the right time enabled through efficient communication, ensuring that orders are placed with the appropriate amount of time available to be filled.
 - (ii) **Logistics:** Keeping the cost of transporting materials as low as possible consistent with safe and reliable delivery. Thus, SCM enables a company to have constant contact with its distribution team and allow the company to track the location of material all the time.
 - (iii) **Production:** Production can run smoothly as a result of fulfillment and logistics being implemented correctly. If the correct quantity is not ordered and delivered at the requested time, production will be halted, but having an effective supply chain management system in place will ensure that production can always run smoothly without delays due to ordering and transportation.
 - (iv) **Revenue & Profit:** Managing the supply chain improves a company's flexibility to respond to unforeseen changes in demand and supply. Because of this, a

company has the ability to produce goods at lower prices and distribute them to consumers quicker than companies without supply chain management thus increasing the overall profit.

- (v) **Costs:** Keeping the cost of purchased parts and products at acceptable levels. SCM reduces costs by increasing inventory turnover on the shop floor thus reducing internal and external failure costs and working with suppliers to produce the most cost efficient means of manufacturing a product.
- (vi) **Cooperation:** Collaborative planning, forecasting and replenishment (CPFR) is a longer-term commitment, joint work on quality, and support by the buyer of the supplier's managerial, technological, and capacity development. This relationship allows the company to have access to current, reliable information obtain lower inventory levels, cut lead times, enhance product quality, improve forecasting accuracy and ultimately improve customer service and overall profits.

Note: Students may discuss any four points.

- (b) By using Customer Relationship Management (CRM), the company would be able to serve the customer in a better way. CRM includes the methodologies, technology and capabilities that help an enterprise manage customer relationships. The general purpose of CRM is to enable organizations to manage their customers in a better way through the introduction of reliable systems, processes and procedures. Customer Relationship Management is a corporate level strategy which focuses on creating and maintaining lasting relationships with its customers.

To be effective, the CRM process needs to be integrated end-to-end across marketing, sales, and customer service. The following factors determine the good CRM program needs to be implemented in the organization.

- (i) Identify customer success factors,
- (ii) Create a customer-based culture,
- (iii) Adopt customer-based measures.
- (iv) Develop an end-to-end process to serve customers,
- (v) Recommend what questions to ask to help a customer solve a problem,
- (vi) Recommend what to tell a customer with a complaint about a purchase,
- (vii) Track all aspects of selling to customers and prospects as well as customer support.

- 7. (a) **Read-Only-Memory (ROM):** It is used for micro programs wherein the storage cannot be altered by regular program instructions. The information is stored permanently in such memory during their manufacturing and can be read only but fresh information cannot be written into it. One set of instructions found in ROM is

called the ROM-BIOS which stand for Read-Only-Memory Basic Input Output services. These programs perform the basic control and supervisory operations for the computer. Its various types are- PROM, EPROM and EEPROM and also handles the basic needs of the hardware involved, which include all I/O devices.

- (b) **Device Drivers:** Device drivers are small files that act as an interface between hardware in a computer system and the operating system (OS). A driver typically communicates with the device through the computer bus or communication subsystem to which the hardware connects. When a calling program invokes a routine in the driver, driver issues commands to the device. Once the device sends data back to the driver, the driver may invoke routines in the original calling program. For e.g. Windows OS typically include many device drivers by default so that the OS can recognize many types of desktop hardware components instantly and implement functionality.
- (c) **E-R Database Model :** An E-R model is a specialized graphic that illustrates the interrelationships between entities in a database. It is an abstract and conceptual representation of data. Entity-relationship model is a database modeling method, used to produce a type of conceptual schema of a system. The entity is defined as a distinguishable object that exists in isolation and is described by a set of attributes. An entity may be a physical object such as a house or a car, an event such as a house sale or a car service, or a concept such as a customer transaction or order. A relationship is the association among several entities. Entities and relationships can both have attributes. An attribute is a data element that describes an entity. The set of all entities or relationships of the same type is called the entity set or relationship set. The degree of relationship indicates the link between the two entities for a specified occurrence of each. The degree of relationship is also called "Cardinality". Cardinality specifies how many instances of an entity relate to one instance of another entity.
- (d) **Application Server:** It is a server program that resides in the server (computer) and provides the business logic for the application program. The server can be a part of the network, more precisely the part of the distributed network. The server program is a program that provides its services to the client program that resides either in the same computer or on another computer connected through the network. Application servers are mainly used in Web-based applications that have 3-tier architecture. The application server is a second/middle tier of the three-tier architecture. In other words, application servers are now an integral part of the three-tier architecture.
- (e) **M-commerce (mobile commerce):** It is the buying and selling of goods and services through wireless handheld devices such as cellular telephone and personal digital assistants (PDAs) known as next-generation e-commerce. M-commerce enables users to access the Internet without needing to find a place to plug in. The emerging technology behind m-commerce is based on the Wireless Application Protocol (WAP). Using Bluetooth technology, smart phones offer fax, e-mail, and

phone capabilities all in one, paving the way for m-commerce to be accepted by an increasingly mobile workforce. The industries affected by m-commerce include financial services, telecommunications, Service/retail sectors and Information services etc.

MOCK TEST PAPER – 1

IPCC/PCC: GROUP – II

PAPER –7/6: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT

SECTION – B: STRATEGIC MANAGEMENT

SUGGESTED ANSWERS / HINTS

1. (a) Transformational leadership style may be appropriate in turbulent environments, in industries at the very start or end of their life-cycles, in poorly performing organizations when there is a need to inspire a company to embrace major changes. Transformational leaders offer excitement, vision, intellectual stimulation and personal satisfaction. They inspire involvement in a mission, giving followers a 'dream' or 'vision' of a higher calling so as to elicit more dramatic changes in organizational performance. Such a leadership motivates followers to do more than originally affected to do by stretching their abilities and increasing their self-confidence, and also promote innovation throughout the organization.
- (b) All the organizations have competition whether it is a national or multinational. Small and medium size organizations have separate sets of pattern and big companies have separate set of patterns. But, one thing is a fact that there is no monopoly organization except Railway. The nature of competition affect the rate of growth, rate of income, consumer welfare. Sometimes, there is a direct competition and, sometimes, it is indirect. For example, Coke and Pepsi compete directly together but they have to fight with Hindustan Unilever Ltd. or Food Drink, Hamdard. The nature and level of competition can be understood by answering the following questions:
 - (i) Who are the competitors?
 - (ii) What are their product and services?
 - (iii) What are their market shares?
 - (iv) What are their financial positions?
 - (v) What gives them cost and price advantage?
 - (vi) What are they likely to do next?
 - (vii) Who are the potential competitors?

Sometimes, competitors join hands to help one another-Tata and Fiat. They identify the common interest between them. A soft drink Company can enter into Restaurant. For example, Coke & Pizza Hut. The benefits of cooperation are also seen in Japan where large cooperative network of business is known as kieretsu. They are formed in order to enhance the ability of individual business member to compete in their respective industries. They share their common interest.

- (c) Total quality management espouses a philosophy of continuous improvement in all areas of an organization. Quality measurement is needed in order to focus improvement efforts appropriately. Continuous improvement is part of the management of all systems and processes. Achieving the highest levels of performance requires a well-defined and well-executed approach to continuous improvement and learning. "Continuous improvement" refers to both incremental and "breakthrough" improvement. Improvements may be of several types:

§ Enhancing value to the customer through new and improved products and services;

§ Developing new business opportunities;

§ Reducing errors, defects, and waste;

§ Improving responsiveness and cycle time performance; and

§ Improving productivity and effectiveness in the use of all resources.

"Learning" refers to adaptation to change, leading to new goals or approaches. Improvement and learning need to be embedded in the way an organization operates. This means they should be a regular part of daily work, seek to eliminate problems at their source, and be driven by opportunities to do better as well as by problems that need to be corrected.

- (d) A retrenchment strategy considered the most extreme and unattractive is liquidation strategy, which involves closing down a firm and selling its assets. It is considered as the last resort because it leads to serious consequences such as loss of employment for workers and other employees, termination of opportunities where a firm could pursue any future activities, and the stigma of failure. The company management, government, banks and financial institutions, trade unions, suppliers and creditors, and other agencies are extremely reluctant to take a decision, or ask, for liquidation. Liquidation strategy may be unpleasant as a strategic alternative but when a "dead business is worth more than alive", it is a good proposition. For instance, the real estate owned by a firm may fetch it more money than the actual returns of doing business. When liquidation is evident (though it is difficult to say exactly when), an abandonment plan is desirable.
- (e) Supply chain management is an extension of logistic management. However, there is difference 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 has different components. 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 includes more aspects apart from the logistics function. It is a tool of business transformation and involves delivering the right product at the right time to the right place and at the right price. It reduces costs of organizations and enhances customer service.

2. (a) (i) **Incorrect:** Benchmarking relates to setting goals and measuring productivity based on best industry practices. The idea is to learn from competitors and others to improve their own performance. On the other hand business process reengineering relates to analysis and redesign of workflows and processes both within and between the organizations.
 - (ii) **Correct:** Direct marketing is done through various advertising media that interact directly with customer. Teleshopping is a form of direct marketing which operates without conventional intermediaries and employs television and other IT devices for reaching the customer. The communication between the marketer and the customer is direct through third party interfaces such as telecom or postal systems.
 - (b) (i) Cost Leadership.
 - (ii) Benchmarking.
 - (iii) Relationship Marketing.
3. (a) Six sigma is a highly disciplined process that helps in developing and delivering near-perfect products and services. It strives to meet and improve organizational outputs in terms of quality, cost, scheduling, manpower, new products and so on. It works continuously towards revising the current standards and establishing higher ones. It means taking systemic and integrated efforts toward improving quality and reducing cost.
 - (b) Augmented marketing refers to deliberate and accelerated efforts to get better marketing returns through additional means. It includes provision of additional customer services and benefits built around the core and actual products that relate to introduction of hi-tech services like movies on demand, on-line computer repair services, secretarial services, etc. Such innovative offerings provide a set of benefits that promise to elevate customer service to unprecedented levels.
 - (c) Marketing mix forms an important part of overall competitive marketing strategy. The marketing mix is the set of controllable marketing variables that the firm blends to produce the response it wants in the target market. The marketing mix consists of everything that the firm can do to influence the demand for its product. These are usually referred to as 4Ps - product, price, place and promotion.

Product stands for the “goods-and-service” combination the company offers to the target market. Price stands for the amount of money customers have to pay to obtain the product. Place stands for company activities that make the product available to target consumers. One of the most basic marketing decision is choosing

the most appropriate channel to reach target customer. Promotion stands for activities that communicate the merits of the product and persuade target consumers to buy it. It includes - Personal Selling, Advertising, Publicity and Sales promotion

The traditional concept of 4Ps is also expanded further with more Ps such as, people, physical evidence and process. Under the dynamics of market all the Ps are extremely important so as to build and sustain a competitive advantage over the rivals.

4. SWOT analysis helps managers to craft a business model (or models) that will allow a company to gain a competitive advantage in its industry (or industries). Competitive advantage leads to increased profitability, and this maximizes a company's chances of surviving in the fast-changing, global competitive environment that characterizes most industries today.

Faced with a constantly changing environment, each business unit needs to develop a marketing information system to track trends and developments, which can be categorized as an opportunity or a threat. The company has to review its strength and weakness in the background of environment's opportunities and threat, i.e., an organization's SWOT analysis.

Strengths · Favourable location · Excellent distribution network · ISO 9000 quality certification · Established R & D centre · Good management reputation	Weaknesses · Uncertain cash flow · Weak management information system · Absence of strong USP for major product lines · Low worker commitment
Opportunities · Favourable industry trends · Low technology options available · Possibility of niche target market · Availability of reliable business partners	Threats · Unfavourable political environment · Obstacles in licensing new business · Lack of sustainable financial backing · Uncertain competitors' intentions

5. For implementing six sigma there are two separate key methodologies for existing and new processes. Conceptually there is some overlapping between the two. The two methodologies as follows:
1. **DMAIC:** DMAIC methodology is an acronym for five different steps used in six sigma directed towards improvement of existing product, process or service. The five steps are as follows:
 - “ *Define:* To begin with six sigma experts define the process improvement goals that are consistent with the strategy of the organization and customer demands. They discuss different issues with the senior managers so as to define what needs to be done.
 - “ *Measure:* The existing processes are measured to facilitate future comparison. Six sigma experts collect process data by mapping and measuring relevant processes.
 - “ *Analyze:* Verify cause-and-effect relationship between the factors in the processes. Experts need to identify the relationship between the factors. They have to make a comprehensive analysis to identify hidden or not so obvious factors.
 - “ *Improve:* On the basis of the analysis experts make a detailed plan to improve.
 - “ *Control:* Initial trial or pilots are run to establish process capability and transition to production. Afterwards continuously measure the process to ensure that variances are identified and corrected before they result in defects.
 2. **DMADV:** DMADV is again an acronym for the steps followed in implementing six sigma. It is a strategy for designing new products, processes and services.
 - “ *Define:* As in case of DMAIC six sigma experts have to formally define goals of the design activity that are consistent with strategy of the organization and the demands of the customer.
 - “ *Measure:* Next identify the factors that are critical to quality (CTQs). Measure factors such as product capabilities and production process capability. Also assess the risks involved.
 - “ *Analyze:* Develop and design alternatives. Create high-level design and evaluate to select the best design.
 - “ *Design:* Develop details of design and optimise it. Verify designs may require using techniques such as simulations.
 - “ *Verify:* Verify designs through simulations or pilot runs. Verified and implemented processes are handed over to the process owners.
6. In reality no company can forecast both internal and external environment exactly. Moreover, everything cannot be planned in advance. In the business world, it is not

possible to plan everything. We cannot anticipate on the rival firms, shifting customer, requirement and expectations of new technologies and market situation etc.

In fact, actual strategy is always partly proactive and partly reactive.

Proactive strategy: The Company will move with the perfect planning and set procedure. It will look at opportunities to grab in planned way. It will help organisation to be a leader in its kingdom. This fosters high risk and rewards. Proactive part of management is deliberate game plan for the product analysis. It is strategy thinking about the company's situation and seeking the buyers' patronage.

Reactive strategy: This provides the triggers to move faster. This provides extra power to take on external environment. It does not care for risk and reward; rather it focuses on goal to be achieved.

A corporate strategy is typically a blend of different thought processes.

Proactive actions by managers to improve the company's market position and financial performance.

As needed, reaction to unanticipated development and fresh market conditions.

The biggest portion of a company's current strategy flows from previously initiated actions and business approaches that are working well enough to merit continuation and newly launched managerial initiatives to strengthen the company's overall position and performance. This is part of management's analysis and strategic thinking about company situation.

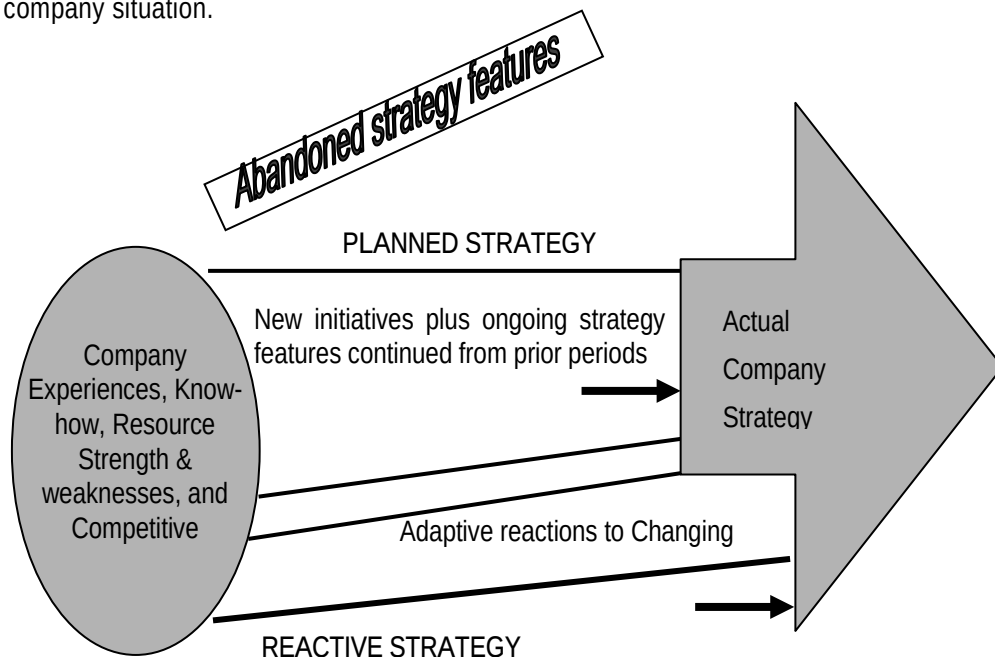


Figure: A Company's Actual Strategy Is Partly Planned & Partly Reactive

7. The external environment offers a range of opportunities, constraints, threats and pressures and thereby influences the structure and functioning of the enterprise. As a sub-system, the corporate enterprise draws certain inputs of resources, information and values from the larger environmental system, transforms them into outputs of products, services, goals and satisfactions and exchanges with or transmits them into the external environment. In the process, it generates energy and sustains itself.

The relationship between the organization and its environment may be discussed in terms of interactions between them in several major areas which are outlined below:

- “ *Exchange of information:* The organization scans the external environmental variables, their behaviour and changes, generates important information and uses it for its planning, decision-making and control purposes. Much of the organizational structure and functioning is attuned to the external environmental information. Information generation is one way to get over the problems of uncertainty and complexity of the external environment. Information is to be generated on economic activity and market conditions, technological developments, social and demographic factors political-governmental policies and postures, the activities of other organizations and so on. Both current and projected information is important for the organization.
- “ *Exchange of resources:* The organization receives inputs—finance, materials, manpower, equipment etc., from the external environment through contractual and other arrangements. It sustains itself by employing the above inputs for involving or producing output of products and services. The organization interacts with the factor markets for purposes of getting its inputs; it competes sometimes and collaborates sometimes with other organizations in the process of ensuring a consistent supply of inputs.
- “ *Exchange of influence and power:* Another area of organizational-environmental interaction is in the exchange of power and influence. The external environment holds considerable power over the organization both by virtue of its being more inclusive as also by virtue of its command over resources, information and other inputs. It offers a range of opportunities, incentives and rewards on the one hand and a set of constraints, threats and restrictions on the other. In both ways, the organization is conditioned and constrained. The external environment is also in a position to impose its will over the organization and can force it to fall in line. Governmental control over the organization is one such power relationship. Other organizations, competitors, markets, customers, suppliers, investors etc., also exercise considerable collective power and influence over the planning and decision making processes of the organization.

In delineating the relationship between the organization and the environment, one has to be clear on the diversity of both these entities. On the one hand, the nature of relationship depends on the size of the organization, its age, the nature of business, the

nature of ownership, degree of professionalization of management, etc. On the other hand, the relationship depends on the fact whether the external environmental elements behave in a random or structured manner (uncertainty v. predictability), whether such elements are placid or turbulent, whether they are slow-changing or fast changing, whether they are simple or complex, and so forth. The degree of interaction between the organization and the external environment is set by the above characteristics. It follows therefore that all organizations do not behave in the same way in relation to their external environment. Their structures and functions are shaped in tune with the demands of the external environment.

Test Series: March, 2012

MOCK TEST PAPER – 2

IPCC/PCC: GROUP – II

PAPER –7/6: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT

SECTION – A: INFORMATION TECHNOLOGY

Question No.1 is compulsory.

Attempt any five questions from the rest.

Time Allowed – 1½ Hours

Maximum Marks – 50

1. Briefly discuss each of the following questions.
 - (a) What is the importance of Control Unit?
 - (b) Differentiate any two concepts between 3rd GLs and 4th GLs.
 - (c) Discuss any two relational database keys.
 - (d) Differentiate between circuit and packet switching.
 - (e) What do you understand by Bullwhip effect in Supply Chain Management?

(2 x 5 =10 Marks)
2.
 - (a) State any four advantages & disadvantages of Direct Access Storage. (4 Marks)
 - (b) A disk has 48 plates, each having 4000 tracks. Each track is divided into 200 sectors per track, and each sector can store 1024 bytes. Calculate the total no. of bytes(GB) a disk can store on both sides of the disk surface. (4 Marks)
3.
 - (a) Discuss the salient features of Hierarchical database structure. (4 Marks)
 - (b) Discuss various stages involved in the process of Data Mining. (4 Marks)
4.
 - (a) Describe the important characteristics of client/server technology. (4 Marks)
 - (b) Discuss in brief, various steps in implementation of network security program. (4 Marks)
5. (a) A bicycle shop in a city hires bicycles by the day at different rates for different models as given below:

Model No.	Hire rate per day (Rs.)
Model No. 1	14.00
Model No. 2	12.00
Model No. 3	10.00

In order to attract customers, the shopkeeper gives a discount on the number of days a bicycle is hired for. The policy of discount is as given below:

No. of days	Discount rate (%)
1- 5	0.00
6- 10	8
11 and over	15

For every bicycle hired, a deposit of ₹ 30.00 must be paid.

Develop a flow chart to print out the details for each customer such as name of the customer, bicycle model number, number of days a bicycle is hired for, hire charges, discount and total charges including deposits.

- (b) Discuss the advantages and disadvantages of using decision table over flow charting. (4 Marks)
6. (a) What are the advantages of EDI? Explain in brief. (4 Marks)
 - (b) Explain general management concerns in E-commerce. (4 Marks)
7. Write short notes on any *four* of the following. (2 x 4 = 8 Marks)
 - (a) Spooling Software
 - (b) DDL
 - (c) ISDN
 - (d) Bluetooth
 - (e) Extranet

Test Series: March, 2012

MOCK TEST PAPER – 2

IPCC/PCC: GROUP – II

PAPER –7/6: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT

SECTION – B: STRATEGIC MANAGEMENT

Question No.1 is compulsory.

Attempt any five questions from the rest.

Time Allowed – 1½ Hours

Maximum Marks – 50

1. (a) "A book publisher and a magazine editor both have different objectives but an identical mission." How? (3 Marks)
- (b) Can an organization simultaneously achieve cost leadership and differentiation? Explain? (3 Marks)
- (c) Enterprise pursues multiple objectives rather than a single objective. Identify the business objectives and explain them. (3 Marks)
- (d) Under what conditions would you recommend the use of Turnaround strategy in an organization? (3 Marks)
- (e) Can a change in the elected government affect the business environment? Explain. (3 Marks)
2. (a) State with reasons which of the following statements is correct/incorrect:
 - (i) Control systems run parallel with strategic levels.
 - (ii) Human resource management aids in strategic management. (2 × 2 = 4 Marks)
- (b) Fill in the blanks in the following statements with the most appropriate word:
 - (i) _____ are conceptually defined clusters of competitors that share similar strategies.
 - (ii) _____ facilitate organization of multi-businesses.
 - (iii) The main focus of six sigma is on the _____. (3 × 1 = 3 Marks)
3. Write short notes on the following:
 - (a) Demarketing (2 Marks)
 - (b) Retrenchment strategy (2 Marks)
 - (c) Strategic vision (3 Marks)

- 4 Distinguish between the following:
- (a) Logistic and supply chain management (4 Marks)
 - (b) Micro and macro environment (3 Marks)
5. How information technology plays a role in reengineering the business process?(7 Marks)
6. Explain in brief the various types of strategic control. (7 Marks)
7. An organization wants to start a new business and would like to understand the structure of competition in the industry. Identify the factors that an organization should analyze. (7 Marks)

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.

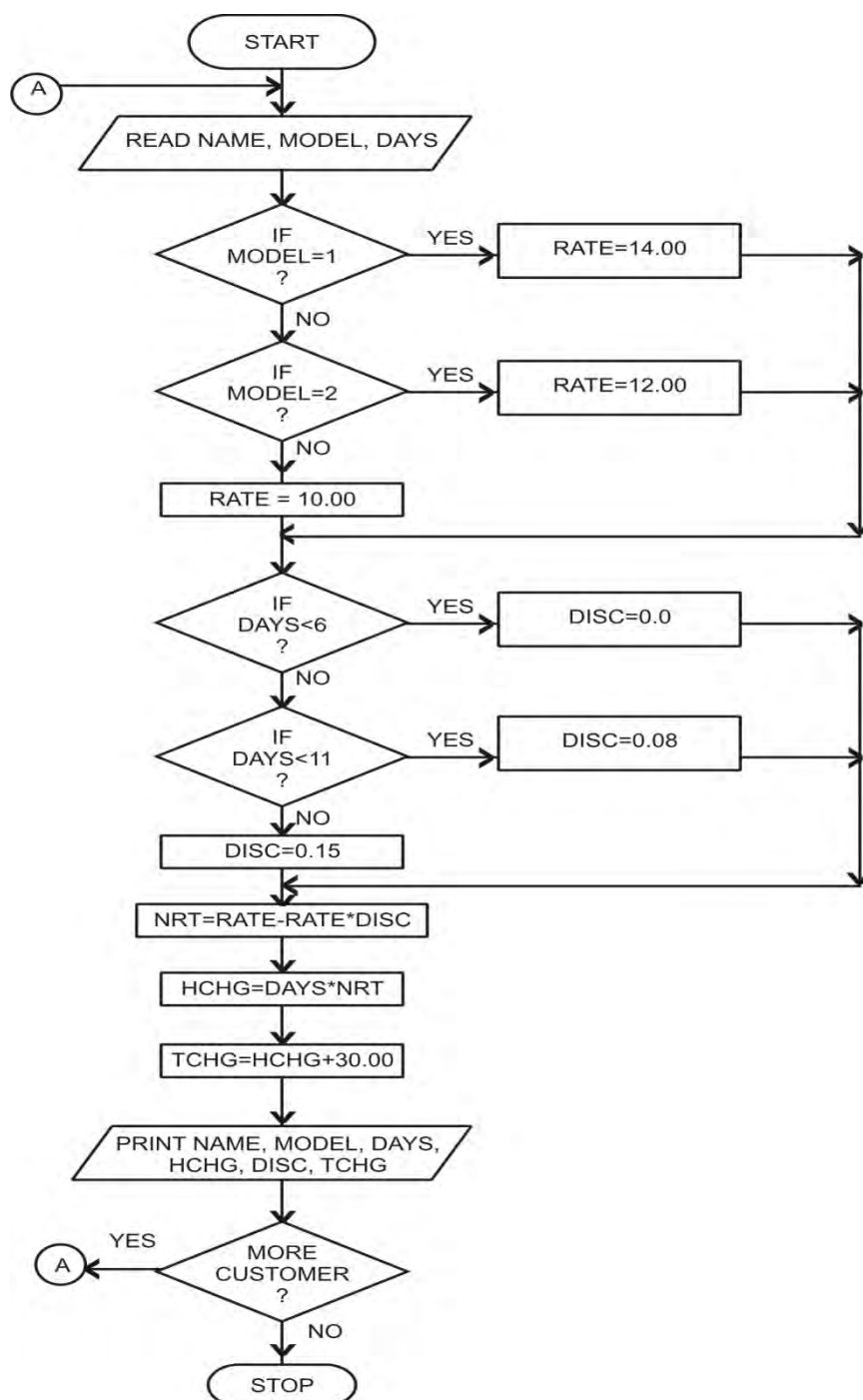
(b) Stages in Data Mining are discussed below.

- (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.