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PAPER – 7: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT

SECTION – A: INFORMATION TECHNOLOGY

Question No. 1 is compulsory.

Answer any five questions from the rest.

Question 1

Answer all the following questions in brief:

- (a) *What is fat client / fat server?*
- (b) *Differentiate volatile and non-volatile memory.*
- (c) *What is Computer Output Microfilm (Microfiche)?*
- (d) *Define Entity and Relationship.*
- (e) *What is WiFi?*

(5 x 2 = 10 Marks)

Answer

- (a) **Fat Client/ Fat Server:** A fat client/ fat server is a popular term that provides vivid description of the type of client/server system in place. In a fat client system, more of processing takes place on the client, like with a file server or database server. Fat servers place more emphasis on the server and try to minimize the processing done by clients. E.g. Transaction, groupware, and web server. Fat clients are also referred as “2-Tier” system and fat-servers as “3-Tier” system
- (b) **Volatile Memory:** Volatile memory requires constant power to maintain the stored information. In other words, volatile memory loses its contents once the power is cut. Volatile memory is faster to access and is typically used for primary storage.

Non-volatile memory: Non-volatile memory retains the stored information even if it is not constantly supplied electric power. It is suitable for long term storage of information, and therefore used for secondary, tertiary and off-line storage. Hard disks and Flash memory are examples of Non-volatile memory.
- (c) **Computer Output Microfilm (Microfiche):** A microfiche is an output technique that records output from a computer as microscopic images on photographic film or rolls. The images stored through COM are the same as the images, which would be printed on paper. The COM recording process reduces characters 24, 42 or 48 times smaller than would be produced from printer. Data can be recorded on film at up to 30,000 lines per minute-faster than all except very high-speed printers. Less space is required to store microfilm than printed materials. It is a less expensive way to store data than other media.
- (d) **Entity:** An entity is defined as distinguishable object that exists in isolation and is described by a set of attributes. An entity may be physical object such house or a car;

and event such as a house sale or a car service or a concept such as customer transaction or order.

Relationship: A relationship is an association among several entities. For examples, a *works* relationship between Employee and a Department, a *contain* relationship between an Order and Item, a *perform* relationship between Artist and songs.

- (e) **Wi-Fi:** Wi-Fi or Wireless Fidelity is a brand originally licensed by the Wi-Fi Alliance to describe the underlying technology of Wireless Local Area Network based on the IEEE 802.11 specification. It was intended to be used for mobile computing devices such as laptop in LAN. However now a days it is widely used for internet, VoIP phone, and basic connectivity of consumer electronics items. A person with Wi-Fi device can connect to internet when in proximity of an access point. Region covered by one or several access points is called a hot spot. Hot spots can range from a single room to many square miles of overlapping hot spots. It can also be used to create a wireless mesh network.

Question 2

- (a) *Explain the different types of database backups.* (4 Marks)
(b) *What are the components of Decision Support System?* (4 Marks)

Answer

- (a) Different types of database backups are given as follows:
- **On-line backup:** It is performed by executing the command-line or from the "Backup database" utility. When an on-line backup process begins, the database engine externalizes all cached data pages kept in memory to the database file on disk. This process is called a check point. The database engine continues recording activity in the transaction log file while the database is being backed up. The log file is backed up after the backup utility finishes backing up the database. The log file contains all of the transactions recorded since the last database backup. For this reason the log file from an on-line full backup must be applied to the database during recovery.
 - **Live backup:** A live backup is carried out by using the BACKUP utility with the command-line option. A live backup provides a redundant copy of the transaction log for restart of the system on a secondary machine in the event the primary database server machine becomes unusable.
 - **Full database backup:** For a full backup, the database backup utility copies the database and log. A full backup capture all files on the disk or within the folder selected for backup. With a full backup system, every backup generation contains every file in the backup set.
 - **Incremental Backup:** An incremental backup uses the DBBACKUP utility to copy the transaction log file since the most recent full backup. When we perform an

incremental backup, the mirror log is not backed up. When we backup and renamed the log files, the transaction and mirror logs file are renamed and a new log files are created. One must plan to manually backup the mirror log.

(b) **Components of DSS:** A Decision Support System (DSS) has four basic components which are discussed below:

- **The User:** The user of a DSS, usually a manager, may be at any level of authority in the organization (e.g., either top management or operating management) with an unstructured or semi-structured problem to solve. Typically, users do not need a thorough computer background rather thorough understanding of the problem is required to use any DSS.
- **Database:** DSS includes one or more databases that database contain both routine and non-routine data from both internal and external sources. The data from external sources include data about the operating environment surrounding an organization e.g. data about economic conditions, market demand for the organization's goods or services, interest rate, market prices and level of competition etc. The data from internal sources may come from internal sources – for example- data form financial and managerial accounting sub-systems of the organization. DSS user may construct additional database themselves.
- **Planning Languages:** General-purpose planning language and Special purpose planning languages are two types of planning languages commonly used in DSS. General-purpose planning languages allows users to perform many routine tasks – for example, retrieving various data from a database, performing statistical analyses, budgeting, forecasting, and other work sheet-oriented problems. Special purpose planning languages are more limited in what they can do, for example- some statistical languages, such as SAS, SPSS, and Minitab, are examples of special planning languages.
- **Model base:** The model base is the “brain” of the DSS because it performs data manipulations and computations with data provided to it by the user and the database. Planning languages in DSS allows the user to maintain a dialogue with the model base. Most of the model base are custom based which perform various mathematical functions e.g. cross tabulation, regression and time-series analysis, linear programming and financial computing. The analysis provided by the routines in the model base is the key to supporting the user's decision. It may dictate the type of data to be included in the data base.

Question 3

- (a) *What are the requirements of LAN?* (4 Marks)
- (b) *Describe the components of Intrusion Detection Systems.* (4 Marks)

Answer

(a) The basic LAN Requirements are stated below:

- **Compatibility:** A Local Area Network (LAN) Operating System (OS) must provide a layer of compatibility at the software level so that software can be easily written and widely distributed. A LAN OS must be flexible, which means that it must support a large variety of hardware.
- **Internetworking:** Bridging of different LANs together is one of the most important requirements of any LAN. Users should be able to access resources from all workstations on the bridge network in a transparent way; no special commands should be required to cross the bridge. A network OS must be hardware independent, providing the same user interface irrespective of the hardware.
- **Growth Path and Modularity:** One of the most important requirements of a LAN is its modularity. A set of PCs should get easily converted into a LAN which can grow in size simply by adding additional workstations. If more storage is required, one should be able to add another hard disk drive, or another server. If there is need to connect with a user on another LAN, one should be able to install a bridge.
- **System Reliability and Maintenance:** All computers are prone to system lockups, power failure and other catastrophes. If a centralized processing system goes down, all users connected to it are left without a machine to work on. However, a LAN operating system should be fault-tolerant and powerful enough to withstand accidents.

(b) There are four types of Intrusion Detection systems namely –

- **Network Intrusion Detection (NID):** NID deals with information in the form of packets passing on wire between hosts. Once captured, the packets are analyzed in number of different ways such as compare the packet to signature database consisting of known attacks and malicious packet fingerprints.
- **Host-based Intrusion Detection (HID):** These systems are designed to monitor, detect and respond to user and system activity and attacks on a given host. Some also offer audit policy management and centralization, supply data forensics, statistical analysis and evidentiary support, and in certain instances provide some measure of access control.
- **Hybrid Intrusion Detection:** These systems offer management of and alert notification from both network and host-based intrusion detection devices. Hybrid solutions provide the logical complement to NID and HID-central intrusion detection management.
- **Network Node Intrusion Detection (NNID):** With NNID, the packet – sniffer is positioned in such a way that it captures packets after they reach their final target, the

designation host. The packet is then analyzed just as if it were travelling along the network through a conventional packet – sniffer.

All these Intrusion Detection Systems are generally made up of following major components:

- **Sensors:** These are deployed in a network or on a device to collect data. They take input from various resources, including network packets, log files, and system call traces. Input is collected, organized, and then forwarded to one more analyzers.
- **Analyzers:** Analyzers in IDS collect data forwarded by sensors and then determine if an intrusion has actually occurred. Output from analyzers should include evidence supporting the intrusion report. The analyzers may also provide recommendations and guidance on mitigation steps.
- **User interface:** The user interface of the IDS provides the end users a view and way to interact with the system. Through the interface, the user can control and configure the system. Many user interfaces can generate reports as well.
- **Honey pot:** In fully deployed IDS, some administrators may choose to install a “Honey pots”, essentially a system components setup as bait or decoy for intruders. Honey pots can be used as early warning systems on an attack, decoys from critical systems, and data collection sources for attack analysis.

Question 4

- (a) *Describe the factors in determining the best file organization.* (4 Marks)
- (b) *Explain the distinct steps in "Document Imaging".* (4 Marks)

Answer

- (a) Several factors that must be considered in determining best file organization for a particular application are discussed below:
- **File volatility:** It refers to the number of addition and deletions to the file in a given period of time. The payroll file for a construction company where the employee roster is constantly changing is highly volatile file. Direct access methods would be better. Even sequential file organization would be appropriate if there is no interrogation requirement.
 - **File activity:** It is the proportion of master file records that are actually used or accessed in a given processing run. For example - a real time file where each transaction is processes immediately and hence at a time, only one master record is accessed requires a direct access method. Whereas a file such as a payroll master file, sequential ordered master file would be more efficient, when the weekly payroll is processed.
 - **File Interrogation:** It refers to the retrieval of information from a file. If the retrieval of individual records must be as fast to support a real time operation such as on-line reservation then some kind of direct file organization is required. If, on the other

hand, requirements for data can be delayed, then all the individual requests or information can be batched and run in a single processing run with a sequential file organization.

- **File size:** Large files that require many individual references to records with immediate response must be organized under some type of direct access method. On the other hand, with small files, it may be more efficient to search the entire file sequentially or with a more efficient binary search to find an individual record than to maintain complex indexes.

(b) There are five distinct steps of document imaging as enumerated below:

- **Data Capture:** The most common means of converting paper document into electronic images is to scan them. The scanning device known as scanner can range from a simple hand held device to a high end; high speed scanner capable of scanning more than 2500 pages per hour and converts the text and picture into digitized electronic code. Fax modems are also used to receive electronic images of documents.
- **Indexing:** Document images must be stored in a manner that facilitates their retrieval. Therefore, important document information such as purchase order numbers or vendor number is stored in an index. Great care is needed in designing the indexing scheme.
- **Storage:** As images require a large amount of storage space, they are usually stored on optical disk. One 5.25" optical platter can store 1.4 GB data or about 25000 documents, a 12" removable optical disk stores up to 60,000 documents.
- **Retrieval:** Keying in information store in an index can retrieve documents. The index tells the system which optical disk to search and the requested information can be quickly retrieved.
- **Output:** An exact replica of the original document is easily produced on computer's monitor or on paper or is transmitted electronically to another computer.

Question 5

- (a) *Differentiate between Third-Generation Languages (3 GLs) and Fourth-Generation Languages (4 GLs).* (4 Marks)
- (b) *Describe the advantages and disadvantages of machine language or first generation languages.* (4 Marks)

Answer

- (a) Difference between 3GLs and 4GLs:

S. No.	3 rd Generation Language	4 th Generation Language
1[	These are indented to be used by	These may be used by end user or

	professional programmer.	professional both.
2	These require specification of how to perform the task.	These require specification of what task is to perform.
3	Require that all alternatives be specified.	These languages have default alternatives built in; and user need not specify these alternatives.
4	These require large number of procedural instructions	These require far fewer instructions.
5	Code may be difficult to read, understand and maintain.	Code is easy to understand and maintain because of English-like commands.
6	These languages are developed originally for batch operation.	These languages were developed primarily for on-line use.
7	Can be difficult to learn.	Many features can be learnt quickly.
8	The program written in these languages are difficult to debug.	The errors in the programs are easier to locate because of shorter program, more structured code, and use of defaults and English-like language.
9	Typically file-oriented.	Typically database oriented.

(b) Major Advantage of Machine Language

- Program written in machine language runs very fast because no translation program is required for the CPU.

Major Disadvantages of Machine Language

- It is very difficult to write a program in machine language. The programmer has to know details of hardware to write program.
- The programmer has to remember a lot of codes to write a program which results in program error.
- It is difficult to debug the program written in machine language.

Question 6

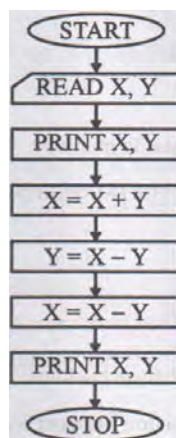
For the flow chart given below:

(a) Print the output displayed for using the given two sets of data:

	X	Y
1 st Set :	15	20
2 nd Set :	35	30

(4 Marks)

- (b) What interpretation do you make from the instructions given in the flow chart? (3 Marks)
- (c) Comment about the storage of the variables used in the instructions of the flow chart. (1 Mark)



Answer

- (a) For first set, X=15, Y=20

Instruction	Output	
Read X, Y	15, 20	
Print X, Y	15, 20	----- 1 st Print
$X = X + Y$	$X = 15 + 20 = 35$	
$Y = X - Y$	$Y = 35 - 20 = 15$	
$X = X - Y$	$X = 35 - 15 = 20$	
Print X, Y	20, 15	----- 2 nd Print
1 st Print	15 20	
2 nd Print	20 15	

For second set, X=35, Y=30

Instruction	Output	
Read X, Y	35, 30	
Print X, Y	35, 30	----- 1 st Print
$X = X + Y$	$X = 35 + 30 = 65$	
$Y = X - Y$	$Y = 65 - 30 = 35$	

$X = X - Y$	$X = 65 - 35 = 30$	
Print X, Y	30, 35	----- 2 nd Print
1 st Print	35 30	
2 nd Print	30 35	

- (b) The given set of instructions in the flow chart is the steps for swapping/interchanging the values of two variables without involving the third variable. As clearly interpreted from the output, the values of X and Y in the both the value sets have got interchanged.

Note: The interpretation involves two important factors:

- (i) Interchange of values of two variables X and Y.
 - (ii) Without involving the third or temporary storage/variable.
- (c) The comments about the storages of the variables used in the instructions of the flow chart are as follows:
- | | | |
|-------------|--|---------|
| $X = X + Y$ | // The value of X has been assigned the value of (X+Y) | ...(i) |
| $Y = X - Y$ | // The value of Y has been assigned the value of (X-Y) | ...(ii) |
| $X = X - Y$ | // The value of X has again been assigned the value of (X-Y), where the values of X and Y are calculated from the statements (i) and (ii). | |

Question 7

Describe briefly any **four** terms:

- (a) Bluetooth
 - (b) Primary Key
 - (c) Conventions or rules of a Protocol
 - (d) ASCII Code
 - (e) Device Drivers
- (4 x 2 = 8 Marks)

Answer

- (a) **Bluetooth:** It is telecommunication industry specifications that describe how mobile phones, computer and Personal Digital Assistant (PDAs) can easily be interconnected using a short range wireless connection. It is a short distance wireless connection which use transceiver chip that transmits and receives signals in the frequency band of 2.5 GHz. Using this technology, user of cell phones, pagers and PDAs can buy a 3-in-one phone that can double as a portable phone at home or in the office, get quickly synchronized with information in a desktop or a notebook computer, initiate the sending or receiving of a file, initiate a print- out, and, in general, have all mobile and fixed computer devices be totally coordinated. Connection can be point to point or multipoint.

The maximum range is 10m and data can be transmitted at a rate of 1mbps. It has built-in encryption and verification system.

- (b) **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 provides uniqueness to data for identification, for example- bank account number is used as primary key for its customers. The primary key may be selected for convenience, comprehension, performance, or any other reasons. Primary key uniquely identifies a record in a database.
- (c) **Protocol:** A transmission protocol is a set of conventions or rules that must be adhered to by both the inter-computer communication parties to ensure that the information being exchanged between the two parties is received and interpreted correctly. In other words, Protocol is software that performs variety of actions necessary for data transmission between computers. A protocol defines the following three aspects of digital communications.
 - **Syntax:** The format of data being exchanged, character set used, types of error correction used, type of encoding scheme (e.g. signal levels) being used.
 - **Semantics:** Type and order of messages used to ensure reliable and error free information transfer.
 - **Timing:** Defines data rate selection and correct timing for various events during data transfer.
- (d) **ASCII Code:** ASCII (American Standards Code for Information Interchange) is a 7 bit code used extensively in small computers, peripherals, instruments and communication devices. It has replaced many of special codes that were previously used. This include both unprintable control codes (0-31) used to control various devices in computer and printable control codes (32-127) that represents lower case and upper case letters, digits, punctuation marks, and other symbols. A newer version of ASCII is the ASCII-8 code, which is an 8-bit code that includes graphics, symbols and mathematical representation.
- (e) **Device Drivers:** Device drivers are small program that act as an interface between hardware in a computer system and Operating System (OS). Hardware requires device driver so that the OS can “see” the devices and handle them effectively and efficiently. A driver typically communicates with the device through the computer bus or communication sub-system to which the hardware connects. The common components that require include, keyboard, mice, controller, and graphic card, audio hardware, Ethernet hardware, wireless cards, ports, card readers, card slots and CD/DVD drives.

SECTION – B : STRATEGIC MANAGEMENT

Question number 8 is compulsory.

Attempt any Five questions from the rest.

Question 8

- (a) *"Environment is the sum of several External and Internal forces that affect the functioning of business." Explain. (3 Marks)*
- (b) *Briefly explain the importance of Strategic Management. (3 Marks)*
- (c) *Specify the steps that is needed to initiate & bring changes in the strategic building of any organization. (3 Marks)*
- (d) *Being a strategic professional, analyze and redesign the work force in the context of business process reengineering. (3 Marks)*
- (e) *Elaborate the interrelationship between strategy formulation and implementation.(3 Marks)*

Answer

- (a) Business environment in which an organization exists can be broadly divided into two parts: *the external* and *the internal*. Since the environment is complex and has multiple elements of it helps to understand it better. External environmental factors are largely beyond the control of individual enterprise and are dynamic in the sense that they keep on changing. These are technological, physical, political and socio-cultural. Internal environment is the environment that has a direct impact on the business and is within the control of the entrepreneurs. These are internal management, machinery, methods of production, etc.
- (b) Strategic management is essential for the survival and growth of business organisations in the present turbulent business environment. The importance of strategic management may be judged from the following points:
 - .. Strategic management helps organisations to be more proactive instead of reactive in shaping its future.
 - .. It provides framework for all the major business decisions.
 - .. It is concerned with ensuring a good future for the firm.
 - .. It serves as a defence mechanism to avoid costly mistakes.
 - .. It helps organisation to evolve certain core competencies and competitive advantages that assist in survival and growth of the firm.
- (c) The changes in the environmental forces often require businesses to make modifications in their existing strategies and bring out new strategies. For initiating strategic change, three steps can be identified as under:

- (i) *Recognize the need for change*: The first step is to diagnose facets of the corporate culture that are strategy supportive or not. The idea is to determine where the lacuna lies and scope for change exists.
 - (ii) *Create a shared vision to manage change*: Objectives and vision of both individuals and organization should coincide. Senior managers need to constantly and consistently communicate the vision not only to inform but also to overcome resistance.
 - (iii) *Institutionalize the change*: Creating and sustaining a different attitude towards change is essential to ensure that the firm does not slip back into old ways of thinking or doing things. All these changes should be set up as a practice to be followed by the organization and be able to transfer from one level to another as a well settled practice.
- (d) Business Process Reengineering (BPR) refers to the analysis and redesign of workflows and processes both within and between the organizations. The orientation of the redesign effort is radical. It involves total deconstruction and rethinking of a business process in its entirety

The workflows are studied, appraised and improved in terms of time, cost, output, quality, and responsiveness to customers. The redesign effort aims to simplify and streamline a process by eliminating all extra avoidable steps, activities, and transactions. With the help of redesigning workflows, organizations can drastically reduce the number of stages of work, and improve their performance.

- (e) Strategy implementation is the managerial exercise of putting a chosen strategy into place. Strategy execution deals with supervising the ongoing pursuit of strategy, making it work, improving the competence with which it is executed and showing measurable progress in achieving the targeted results. Strategic implementation is concerned with translating a decision into action.

It involves allocation of resources to new courses of action that need to be undertaken. There may be a need for adapting the organization's structure to handle new activities as well as training personnel and devising appropriate system.

It is crucial to realize the difference between the formulation and implementation because both require very different skills. A business organization will be successful only when the strategy formulation is sound and implementation is excellent.

Question 9

- (a) State with reasons which of the following statements is correct or incorrect:
- (i) *Developing annual objectives & short-term strategies that are compatible with the selected set of long-term objectives are one of the major task of strategic management.*
 - (ii) *E-commerce technology opens up a host of opportunities for reconfiguring industry and company value chains.* (2 × 2 = 4 Marks)

(b) Fill in the blanks in the following statements with the most appropriate word:

- (i) Strategy is a deliberate reach for a plan of action that will develop a business _____ and compound it.
- (ii) Market penetration refers to a _____ where the business focuses on selling existing products into existing market.
- (iii) Total Quality Management is a people focused management system that aims at continual increase in _____ at continually lower real cost. (3 × 1 = 3 Marks)

Answer

- (a) (i) Correct: A strategic manager has to set the long term objectives, future oriented plans by appreciating the competitive environment. Without bifurcating grand strategies and long-term objectives into annual objectives and short-term strategies, implementation of the strategies is not possible. Dividing objectives, into annual plans help to move forward in a systematic manner.
- (ii) Correct: The impact of e-commerce technology on industry and company value chains is profound, paving the way for fundamental changes in the ways business is conducted both internally, and with suppliers and customers. Using the network to link the customers and the suppliers enables just-in-time delivery, reducing inventory costs and allowing production to match demand.
- (b) (i) Competitive Advantage.
- (ii) Growth Strategy.
- (iii) Customer Satisfaction.

Question 10

Explain the meaning of following concepts:

- (i) Production System
- (ii) Differential Marketing
- (iii) De-marketing
- (iv) Directional Strategies
- (v) Cost Leadership Strategies
- (vi) Market Penetration
- (vii) Strategic Group Mapping (7 × 1 = 7 Marks)

Answer

- (i) The production system is concerned with the activities directed towards creation of products and services for customers. It covers factors such as capacity, location, layout, design, work systems, automation, and so on.

- (ii) A market-coverage strategy in which a firm decides to target several market segments and designs separate offer for each. Differentiation can be achieved through variation in size, shape, colour, brand names and so on.
- (iii) De-marketing is a marketing strategy to reduce demand temporarily or permanently. The aim is not to destroy demand, but only to reduce or shift it when it is too much to handle.
- (iv) The corporate strategies a firm can adopt have been classified into four broad categories: stability, expansion, retrenchment, and combination known as directional/grand strategies. They are often called master or business strategies to provide basic direction for strategic actions toward achieving long-term business objectives.
- (v) A number of cost elements affect the relative attractiveness of generic strategies. A successful cost leadership strategy usually permeates the entire firm, as evidenced by high efficiency, low overhead cost, and waste reduction. The low cost leadership should be such that no competitors are able to imitate so that it can result in sustainable competitive advantage to the cost leader firm.
- (vi) Market penetration is a growth strategy where the business focuses on selling existing products into existing markets. It is achieved by making more sales to present customers without changing products in any major way. Penetration might require greater spending on advertising or personal selling.
- (vii) Strategic group mapping is a useful analytical tool for comparing the market positions of each firm separately and for grouping them into like positions when an industry has so many competitors that it is not practical to examine each one in depth. It involves plotting firms on a two-variable map using pairs of differentiating characteristics such as price/quality range; geographic coverage and so on.

Question 11

- (a) *Elaborate the following principles that guide the Total Quality Management Philosophy:*
 - (i) *Universal Quality Responsibility*
 - (ii) *Preventing Rather than Detecting Defects*
 - (iii) *Continuous Improvement and Learning* (3 × 1 = 3 Marks)
- (b) *What is strategic control? Briefly explain the different types of strategic* (1 + 3 = 4 Marks)

Answer

- (a) (i) **Universal quality responsibility:** TQM requires that everyone takes responsibility for quality. The responsibility for quality is not restricted to an organization's quality assurance department, but is a guiding philosophy shared by everyone in an organization.

- (ii) **Preventing rather than detecting defects:** TQM is a management philosophy that seeks to prevent poor quality in products and services, rather than simply to detect and sort out defects. This saves cost, time and wastages.
 - (iii) **Continuous improvement and learning:** TQM adopts a philosophy of continuous improvement in all areas. Improvement and learning need to be embedded in the way an organization operates. They should be a regular part of daily work, seeking to eliminate problems at their source.
- (b) Strategic Control focuses on the dual questions of whether: (1) the strategy is being implemented as planned; and (2) the results produced by the strategy are those intended.

There are four types of strategic control:

- “ **Premise control:** A strategy is formed on the basis of certain assumptions or premises about the environment. 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.
- “ **Strategic surveillance:** Strategic surveillance is unfocussed. It involves general monitoring of various sources of information to uncover unanticipated information having a bearing on the organizational strategy.
- “ **Special alert control:** At times unexpected events may force organizations to reconsider their strategy. Sudden changes in government, natural calamities, unexpected merger/acquisition by competitors, industrial disasters and other such events may trigger an immediate and intense review of strategy.
- “ **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.

Question 12

- (a) *Explain briefly the role of culture in promoting better strategy execution.* (4 Marks)
- (b) *Describe two environmental changes that you expect to have a major impact on the industry:*
- (i) *Retail Industry*
 - (ii) *Automobile Industry*
 - (iii) *Education Industry* (3 × 1 = 3 Marks)

Answer

- (a) Strong cultures promote good strategy execution when there's fit and hurt execution when there's negligible fit. A culture grounded in values, practices, and behavioral norms

that match what is needed for good strategy execution helps energize people throughout the organization to do their jobs in a strategy-supportive manner. A culture built around such business principles as listening to customers, encouraging employees to take pride in their work, and giving employees a high degree of decision-making responsibility. This is very conducive to successful execution of a strategy of delivering superior customer service.

A work environment where the culture matches the conditions for good strategy execution provides a system of informal rules and peer pressure regarding how to conduct business internally and how to go about doing one's job.

A strong strategy-supportive culture makes employees feel genuinely better about their jobs and work environment and the merits of what the company is trying to accomplish. Employees are stimulated to take on the challenge of realizing the organizational vision, do their jobs competently and with enthusiasm, and collaborate with others.

- (b) Note: All the environmental forces impact industries in varying degree. Over a period of time these may change and oscillate between dominant factors and insignificant factors. Candidates are expected to provide two environmental factors in their answer. In the answers given below a large number of factors have been included. Marks to be awarded on the basis of merit of two environmental changes highlighted by the candidates.

(i) Retail Industry:

- Macro environmental factors such as Technological, Economic, Demographic, Social, Legal and political.
- Rapid change in production process and product innovation.
- Foreign Direct Investment and policies thereon.
- Changes in Direct and indirect taxes
- Inflation, interest rates.
- Changes in employment / labour laws.
- Change in attitude towards health.
- Developments in IT can help in support supply chain management, logistics and transportation.

(ii) Automobile Industry:

- Macro environmental factors such as Technological, Economic, Demographic, Social, Legal and political.
- New research and development.
- Anti- pollution pressures. Use of eco-friendly cars.
- Use of alternative fuels.

- Population growth and age mix
- Rural urban ratio.
- Changes in family structure.
- Changes in income levels.
- Changes in Import & Excise Duties.
- Foreign Direct Investment.
- Financing facilities at low interest rates.

(iii) Education Industry:

- Macro environmental factors such as Technological, Economic, Demographic, Social, Legal and political.
- Changes in government policies. Proposed Higher Education and Research outlays.
- Privatization of Higher Education.
- Availability of soft loans for higher / professional education.
- Attitude towards education.
- Mobility of students.
- Income.
- Job opportunities.

Question 13

Distinguish between the following:

- (a) DMAIC and DMADV Methodology of Six Sigma (4 Marks)
- (b) Expansion Strategy and Retrenchment Strategy (3 Marks)

Answer

- (a) For implementing six sigma, there are two separate key methodologies for existing and new processes. They are known as DMAIC and DMADV.

DMAIC is an acronym for five different steps used in six sigma - Define, Measure, Analyze Improve, and control. DMAIC methodology is directed towards improvement of existing product, process or service.

- 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 factor.
- **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.

DMADV is an acronym for Define, Measure, Analyze, Design, and Verify. DMADV 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.

However, in spite of different orientation in two methodologies, conceptually there is overlapping between the DMAIC and DMADV as both are essentially having similar objectives.

- (b) Expansion strategy is implemented by redefining the business by adding the scope of business substantially increasing the efforts of the current business. On the other hand, Retrenchment Strategy involves redefinition of business by divesting a major product line or market.

Expansion is a promising and popular strategy that tends to be equated with dynamism, vigour, promise and success. Retrenchment or retreat becomes necessary or expedient for coping with particularly hostile and adverse situations in the environment and when any other strategy is likely to be suicidal.

Expansion may take the enterprise along relatively unknown and risky paths, full of promises and pitfalls. Retrenchment involves regrouping and recouping of the resources.

Question 14

Write short notes on the following:

(a) *Elements Considered for Situational Analysis*

(b) *Role of Global Industries*

(4 + 3 = 7 Marks)

Answer

(a) The elements considered for situational analysis are as follows:

- **Environmental factors:** What external and internal environmental factors are there that needs to be taken into account. This can include economic, political, demographic or sociological factors that have a bearing on the performance.
- **Opportunity and issue analysis:** What are the current opportunities that are available in the market, the main threats that business is facing and may face in the future, the strengths that the business can rely on and any weaknesses that may affect the business performance.
- **Competitive situation:** Analyze main competitors of organisation: Who are they, what they up to are, how they compare. What are their competitive advantages?
- **Distribution situation:** Review the distribution situation - how are the products moving through channels.
- **Product situation:** The details about current product. The details about current product may be divided into parts such as the core product and any secondary or supporting services or products that also make up what you sell. It is important to observe this in terms of its different parts in order to be able to relate this back to core client needs.

(b) The term global industry specifically means an industry where a firm's competitive position in one country is affected by its position in other countries. A global industry is one that by operating in more than one country gains R&D, production, marketing and financial advantages in its costs and reputation that are not available to purely domestic competitors. The global business organisation views the world as one market, minimises the importance of national boundaries, sources material, raises capital and markets wherever it can do the job best. The industries reveals global pattern in today's world include automobiles, television sets, commercial aircrafts and boats, sporting equipment, watches, clothing, semiconductors, copiers and also the transfer of funds.