Information Technology and Strategic Management answer key

Section A

1a)

Business Process Management (BPM): BPM may be defined as: "The achievement of an organization's objectives through the improvement, management and control of essential business processes". This refers to the closed loop, iterative management of business processes over their complete lifecycle. In simple terms, BPM is about the management of business processes with the organization being the primary focus. It is the methodology used by enterprises to improve end-to-end business processes in various stages and aim to grow revenues quickly while controlling resource costs.

1b)

The kind of awareness required by an Auditor for auditing in an IT environment is to:

- know the Methodology of Audit so to ensure that the standards, proper usage of common procedures and techniques in the performance of audits is adhered to.
- understand the steps and techniques necessary to plan, perform and complete the Audit.

1c)

Fiber-optic transmission, which uses pulses of a laser-generated light, offer significant advantages in terms of:

- Reduced size and installation effort;
- Greater communication capacity;
- Faster transmission speeds; and
- Freedom from electrical interference.

1d)

The four components of Executive Information Systems (EIS) are as follows:

- **Hardware:** This includes Input data-entry devices, CPU, Data Storage files and Output Devices.
- **Software:** This includes Text base software, Database, and Graphic types such as time series charts, scatter diagrams, maps, motion graphics, sequence charts, and comparison-oriented graphs (i.e., bar charts), Model base.
- **User Interface:** This includes hardware (physical) and software (logical) components by which people (users) interact with a machine. Several types of interfaces can be available to the Executive Information System structure, such as scheduled reports, questions/answers, menu driven, command language, natural language, and input/output.
- **Telecommunication:** This involves transmitting data from one place to another in a reliable networked system.

1e)

The success of any business process automation shall only be achieved when BPA ensures:

- **Confidentiality:** To ensure that data is only available to persons who have right to see the same;
- **Integrity:** To ensure that no un-authorized amendments can be made in the data;
- **Availability:** To ensure that data is available when asked for; and
- **Timeliness:** To ensure that data is made available in at the right time.

To ensure that all the above parameters are met, BPA needs to have appropriate internal controls put in place.

2a)

Executive Information Systems (EIS): An Executive Information System (EIS) is the nature of Information System used by executives to access and administer the data they entail to make informed business decisions. In the hierarchical structure of information systems, the EIS is at the pinnacle and is designed to renovate all significant data (from project to process to budget) into aggregated information that makes sense and brings value to the by and large business strategy. EIS is able to link data from various sources both internal and external to provide the amount and kind of information executives find useful. These systems are designed for top management; easy to use; present Information in condensed view; access organization's databases and data external to the organization.

The components of an EIS can typically be classified as below:

Component	Description
Hardware	Includes Input data-entry devices, CPU, Data Storage files and Output Devices.
Software	Includes Text base software, Database, and Graphic types such as time series charts, scatter diagrams, maps, motion graphics, sequence charts, and comparison-oriented graphs (i.e., bar charts) Model base.
User Interface	Includes hardware (physical) and software (logical) components by which people (users) interact with a machine. Several types of interfaces can be available to the EIS structure, such as scheduled reports, questions/answers, menu driven, command language, natural language, and input/output.
Telecommunication	Involves transmitting data from one place to another in a reliable networked system.

2b)

Distribution Resource Planning (DRP): It is a method used in business administration for planning orders within a supply chain. It is one of the stage during Enterprise Resource Planning (ERP) implementation that enables the user to set certain inventory control parameters (like a safety stock) and calculate the time-phased inventory requirements. This process is also commonly referred to as distribution requirements planning. The objectives of Distribution Resource Planning (DRP) in the SAP R/3 System are:

- To improve customer service levels by anticipating customer demand at distribution centers and providing finished products at the correct location when customer needs arise.
- To provide accurate requirements plan for manufacturing.

To optimize the distribution of available stock in the distribution network using the deployment function.

3a)

The Pre-requisites of ACID TEST for any Transaction Processing System (TPS) are as follows:

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

3b)

Auditors in their various roles use and embrace technology to perform their jobs effectively and efficiently. They deal with data in myriad forms for analysis and decision-making. The location of digital data could be traced to computers and servers either at identified offices of clients or vendors.

The increasing digitization of data leads to an increasing impact and exerts continuing pressure on Auditors to expand their skills beyond traditional roles of using IT for office automation to providing innovative services harnessing the power of technology. The dynamic changes in IT create challenges in not only enterprises but also accountants and auditors in their professionals' capacity.

The traditional core competencies of auditors need to be enhanced with increased understanding of technology systems and there is urgent need to develop the ability to process and integrate information among various areas of business practice. Auditors of the future will be called upon to provide solutions to complex issues by integrating specialized technology with their extensive experience to create new strategic business processes.

Auditors will have to provide assurance on the security, effectiveness, and reliability of information, applications, and new and effective business practices and processes. As IT increasingly becomes a key enabler in enterprises of all types and sizes; and there is transformation from "Technology Oriented" to "Business and Technology Oriented".

4a)

Fat Client: A Fat client or Thick client is a client that performs the bulk of any data processing operations itself, and does not necessarily rely on the server. Unlike thin clients, thick clients do not rely on a central processing server because the processing is done locally on the user system, and the server is accessed primarily for storage purposes. For that reason, thick clients often are not well-suited for public environments. To maintain a thick client, IT needs to maintain all systems for software deployment and upgrades, rather than just maintaining the applications on the server. For example – Personal Computer.

Thin Client: Thin clients use the resources of the host computer. A thin client generally only presents processed data provided by an application server, which performs the bulk of any required data processing. A thin client machine is going to communicate with a central processing server, meaning there is little hardware and software installed on the user's machine. A device using web application (such as Office Web Apps) is a thin client.

4b)

To develop a secured Grid architecture, following constraints are needed to be taken into consideration:

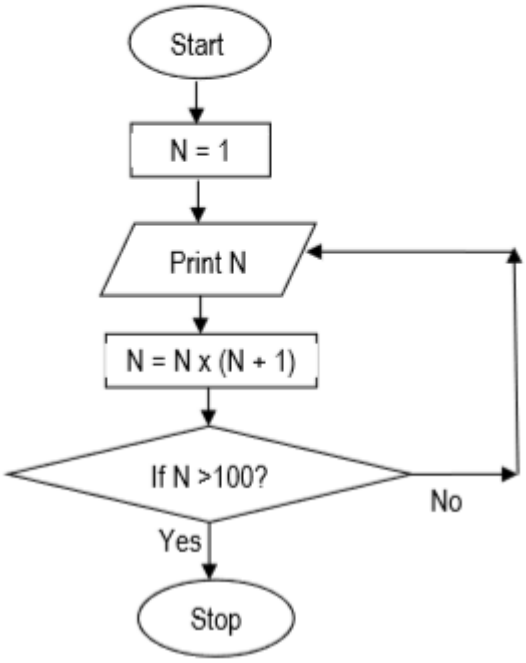
- ***Single Sign-on:*** ***A user should authenticate once and they should be able to acquire resources, use them, and release them and to communicate internally without any further authentication.***
- ***Protection of Credentials:*** ***User passwords, private keys etc. should be protected.***
- ***Interoperability with local security solutions:*** ***Access to local resources should have local security policy at a local level. Despite of modifying every local resource there is an inter-domain security server for providing security to local resource.***
- ***Exportability:*** ***The code should be exportable i.e. they cannot use a large amount of encryption at a time. There should be a minimum communication at a time.***
- ***Support for secure group communication:*** ***In a communication, there are number of processes which coordinate their activities. This coordination must be secure and for this there is no such security policy.***
- ***Support for multiple implementations:*** ***There should be a security policy which should provide security to multiple sources based on public and private key cryptography.***

5)

Let us define the variable first:

N: Number

The desired flowchart is as follows:



The output for the above program is as follows:

1

2

6

42

The output of the above program in case N is initialized as 0 will be -

0, 0, 0, 0, 0 ..... (infinite loop)

6a)

Cloud Computing Architecture refers to the components and subcomponents that typically consist of a Front End platform (fat client, thin client, mobile device), Back End platforms (servers, storage), a cloud based delivery, and a network (Internet, Intranet, Intercloud). Combined, these components make up Cloud Computing Architecture. Cloud architecture typically involves multiple cloud components communicating with each other over a tight or loose coupling of cloud resources, services, middleware, and software components.

A cloud computing architecture consists of two parts - **Front End** and a **Back End** that connect to each other through a network, usually the Internet.

- **Front End:** The front end is the side the computer user or client sees. The Front End of the cloud computing system comprises of the client's devices (or it may be a computer network) and some applications that are needed for accessing the cloud computing system. All the cloud computing systems do not give the same interface to users.
- **Back End:** Back End refers to some physical peripherals and is the "cloud" section of the system. In cloud computing, the back end is cloud itself which may encompass various computer machines, data storage systems and servers. Groups of these clouds make a whole cloud computing system.

6b)

Major ways to make payments electronically are as follows:

(i) **Credit Cards:** In a credit card transaction, the steps involved are authorization, batching, clearing and funding. The consumer presents preliminary proof of his ability to pay by presenting his credit card number to the merchant. The merchant can verify this with the bank, and create a purchase slip for the consumer to endorse. The merchant then uses this purchase slip to collect funds from the bank, and, on the next billing cycle, the consumer receives a statement from the bank with a record of the transaction.

(ii) **Electronic Cheque:** Credit card payments are popular for commerce on the Internet. However, FSTC and CyberCash are two systems that let consumers use electronic cheques to pay Web merchants directly. Financial Services Technology Corporation (FSTC) is a consortium of banks and clearing houses that has designed an electronic cheque that is initiated electronically, and uses a digital signature for signing and endorsing. By CyberCash, electronic cheque functions as a message to the sender's bank to transfer funds, and, like a paper cheque, the message is given initially to the receiver who, in turn, endorses the cheque and presents it to the bank to obtain funds.

(iii) **Smart Cards:** Smart cards are any pocket sized card with embedded integrated circuits. Smart cards can provide identification authentications, data storage and application processing. Smart cards may serve as a credit or ATM cards, Fuel cards, mobile phone SIMs, access-control cards, public transport or public phone payment cards etc. on the card. Contact cards, Contactless cards and Combi/Hybrid Cards are the three types of Smart Cards.

(iv) **Electronic Purses:** Electronic Purse Card is very similar to a pre-paid card. Bank issues a stored value card to its customer, the customer can then transfer value from his/her account to the card at an ATM, a personal computer, or a specially equipped telephone. While making purchases, customers pass their cards through a vendor's Point of Sale terminal. Validation is done through a Personal Identification Number (PIN Number). Once the transaction is complete, funds are deducted directly from the cards and transferred to the vendor's terminal. When the value on a card is spent, consumers can load additional funds from their accounts to the card.

7a)

Site Blocking: It is a software-based approach that prohibits access to certain websites that are deemed inappropriate by management. For example, sites that contain explicit objectionable material can be blocked to prevent employee's from

accessing these sites from company Internet servers. In addition to blocking sites, companies can also log activities and determine the amount of time spent on the Internet and identify the sites visited.

7b)

Accounting Information System: An Accounting Information System (AIS) is defined as a system of collection, storage and processing of financial and accounting data that is used by decision makers. An AIS is generally a computer-based method for tracking accounting activity in conjunction with information technology resources. The resulting statistical reports can be used internally by management or externally by other interested parties including investors, creditors and tax authorities.

7c)

Six Sigma: Six Sigma is a set of strategies, techniques, and tools for process improvement. It seeks to improve the quality of process outputs by identifying and removing the causes of defects and minimizing variability in manufacturing and business processes. Each Six Sigma project carried out within an organization follows a defined sequence of steps and has quantified value targets, for example: reduce process cycle time, reduce pollution, reduce costs, increase customer satisfaction, and increase profits. It follows a life-cycle having phases: **Define**, **Measure**, **Analyze**, **Improve** and **Control** (or **DMAIC**).

7d)

Infrastructure as a Service (IaaS): It is the foundation of cloud services that provides clients with access to server hardware, storage, bandwidth and other fundamental computing resources. The service is typically paid for on a usage basis. The service may also include dynamic scaling so that if the customer needs more resources than expected, s/he can get them on the fly (probably to a given limit). It provides access to shared resources on need basis, without revealing details like location and hardware to clients.

7e)

Network Virtualization: Network virtualization is a method of combining the available resources in a network by splitting up the available bandwidth into channels, each of which is independent from the others, and each of which can be assigned (or reassigned) to a server or device in real time. This allows a large physical network to be provisioned into multiple smaller logical networks and conversely allows multiple physical LANs to be combined into a larger logical network. This behaviour allows administrators to improve network traffic control, enterprise and security. Network virtualization involves platform virtualization, often combined with resource virtualization. Network virtualization is intended to optimize network speed, reliability, flexibility, scalability, and security.

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Section B

8a)

Logistics management is a process which integrates the flow of supplies into, through and out of an organization to achieve a level of service. It helps in efficient flow of required material. While formulating effective logistics strategy following areas may be considered:

- Sources of raw materials and components. Timely availability of quality materials.
- Different manufacturing locations and the products being manufactured at each location.
- Nature of distribution facilities. Mode of transportation and whether it is owned or outsourced
- Method for deploying inventory in the logistics network.
- Obsolescence, Safety stock, reorder level, etc.

8b)

Expansion strategy is implemented by redefining the business by adding the scope of business substantially increasing the efforts of the current business. Expansion also includes diversifying, acquiring and merging businesses. Here, the firm seeks significant growth-maybe within the current businesses; maybe by entering new business that are related to existing businesses; or by entering new businesses that are unrelated to existing businesses.

Expansion through diversification: Diversification is defined as entry into new products or product lines, new services or new markets, involving substantially different skills, technology and knowledge. Diversification endeavours can be related or unrelated to existing businesses of the firm.

Expansion through acquisitions and mergers: Acquisition or merger with an existing concern is an instant means of achieving the expansion. When one organization takes over the other organization and controls all its business operations, it is known as acquisition. In the process of acquisition, one financially strong organization overpowers the weaker one. In a merger, two organizations combine to increase their strength and financial gains along with breaking the trade barriers.

8c)

A strategic vision steers an organization in a particular direction, charts a strategic path for it to follow in preparing for the future, and moulds organizational identity. The three elements of a strategic vision are:

i. Coming up with a mission statement that defines what business the company is presently in and conveys the essence of "Who we are and where we are now?"

ii. Using the mission statement as basis for deciding on a long-term course making choices about "Where we are going?"

iii. Communicating the strategic vision in clear, exciting terms that arouse organization wide commitment.

8d)

Various methods for determining a worth of a business can be grouped into three main approaches which are as follows:

(i) **Net worth or stockholders' equity:** Net worth is the total assets minus total outside liabilities of an organisation.

(ii) **Future benefits to owners through net profits:** These benefits are considered to be much greater than the amount of profits. A conservative rule of thumb is to establish a business's worth as five times the annual profit.

(iii) **Market-determined business worth:** This, in turn, involves three methods. First, the firm's worth may be based on the selling price of a similar company. The second approach is called the price-earnings ratio method whereby the market price of the firm's equity shares is divided by the annual earnings per share and multiplied by the firm's average net income for the preceding years. The third approach can be called the outstanding shares method whereby one has to simply multiply the number of shares outstanding by the market price per share and add a premium.

8e)

A bakery normally is a small organization that produces and sells flour-based food baked in an oven. Typically, a bakery produces breads, cakes, cookies, pastries, pies, etc. A bakery that is hitherto not into producing pastries starts producing them and other similar products is following concentric diversification which is basically related diversification.

In this form of diversification, the new business is linked to the existing businesses through existing systems such as processes, technology or marketing. The new product is a spin-off from the existing facilities and products/processes. There are benefits of synergy with the current operations. The most common reasons for pursuing a concentric diversification are that opportunities in existing line of business are available.

9a)

Incorrect: Strategy formulation is primarily an intellectual process and strategy implementation is primarily an operational process. Strategy formulation is based on strategic decision-making which requires analysis and thinking while strategy implementation is based on strategic as well as operational decision-making which requires action and doing.

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.

9b)

(i) A joint venture is a business agreement in which parties agree to develop, for a finite time, a new entity and new assets by contributing equity. They exercise control over the enterprise and consequently share revenues, expenses and assets.

(ii) The changes in the environmental forces often require businesses to make modifications in their existing strategies and bring out new strategies. Strategic change is a complex process and it involves a corporate strategy focused on new markets, products, services and new ways of doing business.

(iii) Customers and suppliers must work together in the product development process. Right from the start the partners will have knowledge of all Involving all partners will help in shortening the life cycles. Products are developed and launched in shorter time and help organizations to remain competitive.

10a)

Implementing TQM requires organization wide support. There are several principles that guide success of TQM. Various principles that guide the total quality management philosophy are as follows:

- A sustained management commitment to quality
- Focusing on the customer
- Preventing rather than detecting defects
- Universal quality responsibility
- Quality measurement
- Continuous improvement and learning
- Root cause corrective action
- Employee involvement and empowerment
- The synergy of teams
- Thinking statistically
- Inventory reduction
- Value improvement
- Supplier teaming
- Training

10b)

Technology is the most dynamic of all the environmental factors. Changes in technology vitally affect the enterprise's costs, profitability, plant location decisions, product lines, growth and development. The technology and business are highly interrelated and interdependent also. Technology is patronized by business. Technology also drives business and makes a total change on how it is carried out.

Technology can act as both opportunity and threat to a business. It can act as

opportunity as business can take advantage of adopting technological innovations to their strategic advantage. However, at the same time technology can act as threat if organisations are not able to adopt it to their advantage. For example, an innovative and modern production system can act as weakness if the business is not able to change their production system. New entrants or existing competitors can always use availability of technological improvements in products or production methods that can be a threat to a business.

Technological opportunities and threats are not limited to the product or production. Technology permeates whole gambit of business. It can transform how a business acts and functions.

11)

Once higher level corporate and business strategies are developed, management need to formulate and implement strategies for each functional area. For effective implementation, strategists have to provide direction to functional managers regarding the plans and policies to be adopted. In fact, the effectiveness of strategic management depends critically on the manner in which strategies are implemented. Strategy of one functional area cannot be looked at in isolation, because it is the extent to which all the functional tasks are interwoven that determines the effectiveness of the major strategy.

Functional area strategy such as marketing, financial, production and human resource are based on the functional capabilities of an organisation. For each functional area, first the major sub areas are identified and then for each of these sub functional areas, contents of functional strategies, important factors, and their importance in the process of strategy implementation is identified.

In terms of the levels of strategy formulation, functional strategies operate below the SBU or business-level strategies. Within functional strategies there might be several sub-functional areas. Functional strategies are made within the higher level strategies and guidelines therein that are set at higher levels of an organisation. Functional managers need guidance from the business strategy in order to make decisions. Operational plans

tell the functional managers what has to be done while policies state how the plans are to be implemented.

Major strategies need to be translated to lower levels to give holistic strategic direction to an organisation. Functional strategies provide details to business strategy & govern as to how key activities of the business will be managed. Functional strategies play two important roles. Firstly, they provide support to the overall business strategy. Secondly, they spell out as to how functional managers will work so as to ensure better performance in their respective functional areas. The reasons why functional strategies are really important and needed for business can be enumerated as follows:

- The development of functional strategies is aimed at making the strategies-formulated at the top management level-practically feasible at the functional level.
- Functional strategies facilitate flow of strategic decisions to the different parts of an organisation.
- They act as basis for controlling activities in the different functional areas of business.
- The time spent by functional managers in decision-making is reduced as plans lay down clearly what is to be done and policies provide the discretionary framework within which decisions need to be taken.
- Functional strategies help in bringing harmony and coordination as they remain part of major strategies.
- Similar situations occurring in different functional areas are handled in a consistent manner by the functional managers.

12a)

Companies that are large enough to be organized into strategic business units face the challenge of allocating resources among those units. In the early 1970's the Boston Consulting Group developed a model for managing a portfolio of different business units or major product lines. The BCG growth-share matrix named after its developer facilitates portfolio analysis of a company having invested in diverse businesses with varying scope of profits and growth.

The BCG matrix can be used to determine what priorities should be given in the product portfolio of a business unit. Using the BCG approach, a company classifies its different businesses on a two-dimensional growth share matrix. Two dimensions are market share and market growth rate. In the matrix:

- The vertical axis represents market growth rate and provides a measure of market attractiveness.
- The horizontal axis represents relative market share and serves as a measure of company's strength in the market.

Thus the BCG matrix depicts quadrants as shown in the following table:

Market Growth Rate			
	High	**Stars**	**Question Marks**
	Low	**Cash Cows**	**Dogs**
		High	*Low*

Relative Market Share

BCG Matrix

Different types of business represented by either products or SBUs can be classified for portfolio analyses through BCG matrix. They have been depicted by meaningful metaphors, namely:

(a) **Stars** are products or SBUs that are growing rapidly. They also need heavy investment to maintain their position and finance their rapid growth potential. They represent best opportunities for expansion.

(b) **Cash Cows** are low-growth, high market share businesses or products. They generate cash and have low costs. They are established, successful, and need less investment to maintain their market share. In long run when the growth rate slows down, stars become cash cows.

(c) **Question Marks,** sometimes called problem children or wildcats, are low market share business in high-growth markets. They require a lot of cash to hold their share. They need heavy investments with low potential to generate cash. Question marks if left unattended are capable of becoming cash traps. Since growth rate is high, increasing it should be relatively easier. It is for business organisations to turn them stars and then to cash cows when the growth rate reduces.

(d) **Dogs** are low-growth, low-share businesses and products. They may generate enough cash to maintain themselves, but do not have much future. Sometimes they may need cash to survive. Dogs should be minimised by means of divestment or liquidation.

The BCG matrix is useful for classification of products, SBUs, or businesses, and for selecting appropriate strategies for each type as follows.

(a) Build with the aim for long-term growth and strong future.

(b) Hold or preserve the existing market share.

(c) Harvest or maximize short-term cash flows.

(d) Divest, sell or liquidate and ensure better utilization of resources elsewhere.

Thus BCG matrix is a powerful tool for strategic planning analysis and choice.

12b)

Corporate strategy helps an organisation to achieve and sustain success. It is basically concerned with the choice of businesses, products and markets. It is often correlated with the growth of the firm.

Corporate strategy in the first place ensures the growth of the firm and its correct alignment with the environment. Corporate strategies are concerned with the broad and long-term questions of what businesses the organization is in or wants to be in, and what it wants to do with those businesses. They set the overall direction the organization will follow. It serves as the design for filling the strategic planning gap. It also helps to build the relevant competitive advantages. A right fit between the firm and its external environment is the primary contribution of corporate strategy. Basically the purpose of corporate strategy is to harness the opportunities available in the environment and countering the threats embedded therein. With the help of corporate strategy, organizations match their unique capabilities with the external environment so as to achieve their vision and mission.

13a)

A textile mill which is on the verge of collapse should carefully analyse its present position, gravity of problems, whether there exist ways to overcome these problems, available resourcesand so on. The action plan for turnaround strategy can be as follows:

Stage One – Assessment of current problems: The first step is to assess the current problems and get to the root causes and the extent of damage the problem has caused. Once the problems are identified, the resources should be focused toward those areas essential to efficiently work on correcting and repairing any immediate issues. The problems can be internal such as low morale of workers in the textile or environment driven such as huge influx of cheap cloth from foreign markets.

Stage Two – Analyze the situation and develop a strategic plan: Before you make any major changes; determine the chances of the business's survival. Identify appropriate strategies and develop a preliminary action plan. For this one should look for the viable core businesses, adequate bridge financing and available organizational resources. Analyze the strengths and weaknesses in the areas of competitive position. Once major problems and opportunities are identified, develop a strategic plan with specific goals and detailed functional actions.

Stage Three – Implementing an emergency action plan: If the organization is in a critical stage, an appropriate action plan must be developed to stop the bleeding and enable the organization to survive. The plan typically includes human resource, financial, marketing and operations actions to restructure debts, improve working capital, reduce costs, improve budgeting practices, prune product lines and accelerate high potential products. A positive operating cash flow must be established as quickly as possible and enough funds to implement the turnaround strategies must be raised.

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Stage Four – Restructuring the business: The financial state of the organization's core business is particularly important. If the core business is irreparably damaged, then the outlook for the entire organization may be bleak. Prepare cash forecasts, analyze assets and debts, review profits and analyze other key financial functions to position the organization for rapid improvement.

During the turnaround, the "product mix" may be changed, requiring the organization to do some repositioning. The 'people mix' is another important ingredient in the organization's competitive effectiveness.

Stage Five – Returning to normal: In the final stage of turnaround strategy process, the organization should begin to show signs of profitability, return on investments and enhancing economic value-added. Emphasis is placed on a number of strategic efforts such as carefully adding new products and improving customer service, creating alliances with other organizations, increasing the market share, etc.

13b)

The business organization and its many environments have innumerous interrelationship that at times it becomes difficult to determine exactly where the organization ends and where its environment begins. It is also difficult to determine exactly what business should do in response to a particular situation in the environment. Strategically, the businesses should make efforts to exploit the opportunity and avoid the threats.

In this context following are the approaches:

(i) **Least resistance:** Some businesses just manage to survive by way of coping with their changing external environments. They are simple goal-maintaining units. They are very passive in their behaviour and are solely guided by the signals of the external environment. They are not ambitious but are content with taking simple paths of least resistance in their goal-seeking and resource transforming behaviour.

(ii) **Proceed with caution:** At the next level, are the businesses that take an intelligent interest to adapt with the changing external environment. They seek to monitor the changes in that environment, analyse their impact on their own goals and activities and translate their assessment in terms of specific strategies for survival, stability and strength. This is a sophisticated strategy than to wait for changes to occur and then take corrective-adaptive action.

(iii) **Dynamic response:** At a still higher sophisticated level, are those businesses that regard the external environmental forces as partially manageable and controllable by their actions. Their feedback systems are highly dynamic and powerful. They not merely recognise and ward off threats; they convert threats into opportunities. They are highly conscious and confident of their own strengths and the weaknesses of their external environmental 'adversaries'. They generate a contingent set of alternative courses of action to be picked up in tune with the changing environment.

At the same time, very dominating behaviour of some command organizations may generate powerful countervailing pressures and forces in the environment. Within certain limits, an organization can shape part of its relevant external environment on a reciprocal basis.

14a)

SBU is any part of a business organization which is treated separately for strategic management purposes. The concept of SBU is helpful in creating an SBU organizational structure. It is discrete element of the business serving product markets with readily identifiable competitors and for which strategic planning can be concluded. It is created by adding another level of management in a divisional structure after the divisions have been grouped under a divisional top management authority based on the common strategic interests.

Its advantages are:

- Establishing coordination between divisions having common strategic interests.
- Facilitates strategic management and control on large and diverse organizations.
- Fixes accountabilities at the level of distinct business units.
- Allows strategic planning to be done at the most relevant level within the total enterprise.
- Makes the task of strategic review by top executives more objective and more effective.
- Helps allocate corporate resources to areas with greatest growth opportunities.

14b i)

DMADV methodology is an acronym for five different steps used in six sigma directed 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.

14b ii))

Balanced scorecard approach: Measuring company performance requires setting both financial and strategic objectives and tracking their achievement. Unless a company is in deep financial difficulty, such that its very survival is threatened, company managers are well advised to put more emphasis on achieving strategic objectives than on achieving financial objectives whenever a trade-off has to be made. The surest path to sustained future profitability quarter after quarter and year after year is to relentlessly pursue strategic outcomes that strengthen a company's business position and, ideally, give it a growing

competitive advantage over rivals. What ultimately enables a company to deliver better financial results from operations is the achievement of strategic objectives that improve its competitiveness and market strength.