MOCK TEST PAPER 1

INTERMEDIATE (IIPC): GROUP – II

PAPER – 7: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT

SECTION – A: INFORMATION TECHNOLOGY

ANSWERS

MULTIPLE CHOICE QUESTIONS (Answer 1-4 are based on case scenario)

1. (d) To improve the business process there should be addition of new product on regular basis.

2. (b) Operational Feasibility

3. (b) Batch Processing

4. (d) Serve the partner as customer

5. (b) Consistency

6. (d) 

7. (c) Business Application Policy

8. (a) Virtual Private Network

9. (a) Data Resource

10. (d) It provides a runtime environment for applications and includes a set of basic services such as storage and databases.

Descriptive Questions

1. (a) The three pillars of Business Process Automation are as follows:

- **Integration:** BPA allows applications and operating systems not only to read data that the systems produce, but also to pass data between the component applications of the business process and to modify the data as necessary.
- **Orchestration:** The process of orchestration enables the ability to bring tasks that exist across multiple computers and different business departments or branches under one umbrella that is the business process itself.
- **Automation:** Orchestration and integration unite with automation to deliver the capability to provide a rules-based process of automatic execution that can span multiple systems and enable a more effective, nimble and efficient business process.

(b) In Post Implementation Audit, the auditors seek to help an organization learn from its experiences in the development of a specific application system. In addition, they might be evaluating whether the system needs to be scrapped, continued, or modified in some way.

2. (a) The advantages of a computer network that may help Businesses are as follows:

(i) **File Sharing** - It provides sharing and grouping of data files over the network.

(ii) **Resource Sharing** - It provides sharing of computer resources such as hard disk, printers etc. by multiple users simultaneously to reduce the cost of installing and maintaining multiple resources in the organization.

(iii) **Remote Access** - Network allows users to remotely access the data and information from organization's network via Internet in cost effective manner.

(iv) **Shared Databases** -Network facilitates simultaneous access to the shared databases to multiple users at the same time by ensuring the integrity of the database.

(v) **Fault Tolerance** - By using network, fault tolerance can be implemented as a defence against accidental data loss. Usually, primary and secondary line of defence backups the data in case of system failure. Additional measures can also be taken by attaching a server with un-interruptible power supply in case of power failure or blackouts.

(vi) **Internet Access and Security** - It provides access to the Internet for transferring the document and to access the resources available on World Wide Web by maintaining data security through firewall system in the organization's network.

(b) The Transaction Processing Cycle in the Railways Reservation System involve following steps:

(i) Data Entry: The first step of the transaction processing cycle is the capture of business data. For example, transaction data may be collected by point-of-sale terminals using optical scanning of bar codes and credit card readers. The recording and editing of data has to be quickly and correctly captured for its proper processing.

(ii) Transaction Processing: Transaction processing systems process data in two basic ways: (i) batch processing, where transaction data are accumulated over a period of time and processed periodically, and (ii) real-time processing (also called online processing),where data are processed immediately after a transaction occurs. All online Transaction Processing System (TPS) depend on the capabilities of fault tolerant computer systems that can continue to operate even if parts of the system fail and incorporate real-time processing capabilities.

(iii) Database Maintenance: An organization's databases must be updated by its transaction processing systems so that they are always correct and up-to-date. For example - database maintenance ensures that these and other changes are reflected in the data records stored in the company's databases.

(iv) Document and Report Generation: Transaction Processing Systems produce a variety of documents and reports. Examples of transaction documents include purchase orders, pay-checks, sales receipts, invoices, and customer statements.

3. (a) Mr. X can use **Communication controls** to ensure communication and transfer of data among various subsystems. Communication Controls are the components in the communication subsystem are responsible for transporting data among all the other subsystems within a system and for transporting data to or receiving data from another system. Various communication controls are as follows:

- **Physical Component Controls:** One way to reduce expected losses in the communication subsystem is to choose physical component that have characteristics that make them reliable and that incorporate features or provide controls that mitigate the possible effects of exposures. These controls involve Transmission Media - Bounded (Guided) Media or Unbounded (Unguided) Media; Communication Lines – Private (Leased) or Public; Modems; Port Protection Devices; Multiplexors and Concentrators.
- **Line Error Controls:** Whenever data is transmitted over a communication line, it can be received in error because of attenuation, distortion, or noise that occurs on the line. Error Detection and Error Correction are the two major approaches under Line Error Controls.
- **Flow Controls:** These are needed because two nodes in a network can differ in terms of the rate at which they can send receive and process data. The simplest form of flow control is "Stop-and-Wait Flow Control" in which the sender transmits a frame of data only when the receiver is ready to accept the frame.
- **Link Controls:** This involves two common protocols – HDLC (Higher Level Data Control) and SDLC (Synchronous Data Link Control).

- **Topological Controls:** A communication network topology specifies the location of nodes within a network, the ways in which these nodes will be linked, and the data transmission capabilities of the links between the nodes. Some of the four basic topologies include Bus, Ring, Star and Tree Topology.
- **Channel Access Controls:** Two different nodes in a network can compete to use a communication channel. Whenever the possibility of contention for the channel exists, some type of channel access control technique must be used. These techniques fall into two classes – Polling methods and Contention methods. Polling techniques establish an order in which a node can gain access to channel capacity; whereas in Contention methods, nodes in a network must compete with each other to gain access to a channel.
- **Internetworking Controls:** Internetworking is the process of connecting two or more communication networks together to allow the users of one network to communicate with the users of other networks. Three types of devices are used to connect sub-networks in an Internet: Bridge, Router and Gateway.

(b) The ways by which ABC Company can implement the new system are as follows:

- **Direct Changeover:** The user stops using the old system one particular day and starts using the new system from thereon, usually over a weekend or during a slack period.
- **Parallel Conversion:** The old system continues alongside the new system for a few weeks or months.
- **Phased Conversion:** Used with larger systems that can be broken down into individual modules which can be implemented separately at different times.
- **Pilot Conversion:** New system will first be used by only a portion of the enterprise, for example at one branch or factory.

4. (a) The transaction that are included under a typical Order to Cash (OTC or O2C) process flow may include the following:

(i) **Customer Order:** A purchase order is received from a customer specifying the type, quantity and agreed prices for products.

(ii) **Recording:** Availability of the items is checked and customer order is booked.

(iii) **Pick release:** The items are moved from the warehouse to the staging area.

(iv) **Shipping:** The items are loaded onto the carrier for transport to the customer.

(iv) **Invoice:** Invoice of the transaction is generated and sent to the customer.

(vi) **Receipt**: Money is received from the customer against the invoices.

(vii) **Reconciliation:** The bank reconciliation of all the receipts is performed.

(b) The classification of the networks depending on the ownership distribution and access controls given to different users are as follows:

(i) **Public Data Network:** A **Public Data Network** is defined as a network shared and accessed by users not belonging to a single organization. It is a network established and operated by a telecommunications administration, or a recognized private operating agency, for the specific purpose of providing data transmission services for the public. The Internet is an example of a Public Data Network.

(ii) **Private Data Network: Private Data Networks** provide businesses, government agencies and organizations of all sizes as a dedicated network to continuously receive and transmit data critical to both the daily operations and mission critical needs of an organization.

(iii) **Virtual Private Networks (VPN):** Many companies have offices and plants scattered over many cities, sometimes over multiple countries. In the olden days, before public data networks, it was common for such companies to lease lines from the telephone company

between some or all pairs of locations. Private networks work fine and are very secure. If the only lines available are the leased lines, no traffic can leak out of company locations and intruders have to physically wiretap the lines to break in, which is not easy to do. The problem with private networks is that leasing a dedicated line between two is too expensive.

5. (a) Some of the reasons for which the Knowledge has gained momentum in recent times are as follows:

- **Altering Business surroundings**: Previously the business environment used to be stable one, so the people of any organization naturally became knowledgeable over time. They absorbed and hang out knowledge about company's product & service, its market, customers, competitors and suppliers. But now rapid change means speedy knowledge obsolescence, so need is there to manage it before it disappears without leaving a trace.
- **Burgeon Connections:** Extremely dispersed operations, global expansion, continual change –none of these would have been possible if it was not possible to deploy knowledge officially and deliberately. Cheap computing has made it probable. IT is now translucent to the user and is more accomplished of capturing knowledge. The authentic, interactive networks can put knowledgeable people in stroke through communication and technologies.
- **Globalization:** It's putting heaviness on firms for innovation as markets are at the present release for new-fangled players and competition is stiff. Now companies have started selling knowledge in addition. For a research lab or software firm, not managing knowledge is similar to Wal-Mart not managing inventory.
- **Modification in Organizational composition:** In today's state of affairs, the organizational structures are changing. The new arrangement is that of "Virtual Organization". This composition is used to integrate far flung operations & Knowledge Discovery in Databases is required.

(b) **Decision Table** is the tabular form that is used by Mr. Rajesh.

The advantages of using Decision Table are as follows:

(i) **Easy to Draw –** Decision Tables are easy to draw and modify as compared to flowcharts.

(ii) **Compact Documentation –** The documentation in the form of decision tables is compact since one decision table may replace few pages of a flowchart.

(iii) **Simplicity –** It is easier to follow a particular path in one column of a decision table than it is to go through several pages of the flowcharts.

(iv) **Direct Codification -** The decision tables can be directly coded into a program.

(v) **Better Analysis –** A decision table shows various alternatives and their respective outcomes side by side for better analysis of the problem.

(vi) **Modularity –** The complex problems would require complex decision tables which can be easily broken down to micro-decision tables.

(vii) **Non-technical –** No knowledge of computer language or CPU working is necessary for drawing decision tables.

SECTION – B: STRATEGIC MANAGEMENT

SUGGESTED ANSWERS/HINTS

1. (A)

(1)	(2)	(3)	(4)	(5)
(a)	(c)	(b)	(a)	(d)

(B) (c)

(C) (b)

(D) (c)

(E) (b)

(F) (b)

(G) (a)

(H) (c)

2. Saree Mahal Pvt. Ltd. is currently manufacturing and designing silk sarees and its top management has decided to expand its business by manufacturing and designing cotton sarees. Both the products are similar in nature within the same industry. The strategic diversification that the top management of Saree Mahal Pvt. Ltd. has opted is concentric in nature. They were in business of manufacturing and designing of silk sarees and now they will manufacture and design cotton sarees for ladies as well. They will be able to use existing infrastructure and distribution channel. Concentric diversification amounts to related diversification.

In concentric diversification, the new business is linked to the existing businesses through process, technology or marketing. The new product is a spin-off from the existing facilities and products/processes. This means that in concentric diversification too, there are benefits of synergy with the current operations.

3. (a) It is true that evaluating the worth of a business is central to strategy implementation. There are circumstances where it is important to evaluate the actual worth of the business. These circumstances can be wide and varied. At a higher level they may include acquisition, merges or diversification. They may also include other situations such as fixing of share price in an issue. Acquisition, merger, retrenchment may require establishing the financial worth or cash value of a business to successfully implement such strategies.

Various methods for determining a business's worth can be grouped into three main approaches.

(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 firm's current annual profit. A five-year average profit level could also be used.

(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.

(b) 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.
- **Measure:** Six sigma experts collect process data by mapping and measuring relevant processes that can facilitate future comparison.
- **Analyze:** Verify cause-and-effect relationship between the factors in the processes.
- **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.

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 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.
- **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.

4. (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) Decision-making is a managerial process and a function of choosing a particular course of action out of several alternative courses for the purpose of accomplishment of the organizational goals. Strategic decisions are different in nature than all other decisions which are taken at various levels of the organization during their day-to-day working. The major dimensions of strategic decisions are given below:

1. Strategic issues require top-management decisions. Strategic issues involve thinking in totality of the organizations and there is lot of risk involved.
2. Strategic issues involve the allocation of large amounts of company resources - financial, technical, human etc.

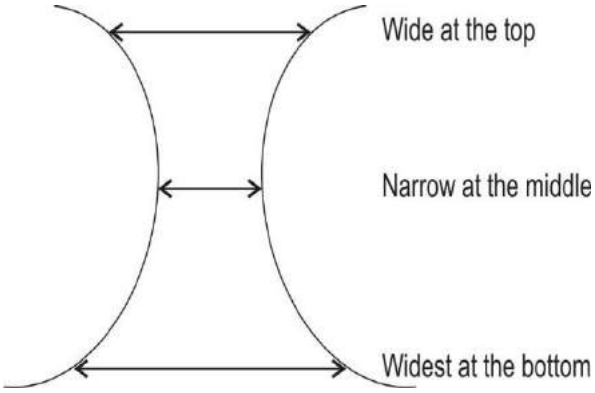
3. Strategic issues are likely to have a significant impact on the long-term prosperity of the firm.
4. Strategic issues are future oriented.
5. Strategic issues usually have major multifunctional or multi-business consequences.
6. Strategic issues necessitate consideration of factors in the firm's external environment.

5. (a) A strategic group consists of those rival firms with similar competitive approaches and positions in the market. Companies in the same strategic group can resemble one another in any of the several ways. An industry contains only one strategic group when all sellers pursue essentially identical strategies and have comparable market positions. The steps for constructing a strategic group map and deciding which firms belong in which strategic group are as follows:

- Identify the competitive characteristics that differentiate firms in the industry. The typical variables are price/quality range (high, medium, low); geographic coverage (local, regional, national, global); degree of vertical integration (none, partial, full); product-line breadth (wide, narrow); use of distribution channels (one, some, all); and degree of service offered (no-frills, limited, full).
- Plot the firms on a two-variable map using pairs of these differentiating characteristics.
- Assign firms that fall in about the same strategy space to the same strategic group.
- Draw circles around each strategic group making the circles proportional to the size of the group's respective share of total industry sales revenues.

(b) In the recent years information technology and communications have significantly altered the functioning of organizations. The role played by middle management is diminishing as the tasks performed by them are increasingly being replaced by the technological tools. Hourglass organization structure consists of three layers in an organisation structure with constricted middle layer. The structure has a short and narrow middle management level.

Information technology links the top and bottom levels in the organization taking away many tasks that are performed by the middle level managers. A shrunken middle layer coordinates diverse lower level activities.



Hourglass Organization Structure

Hourglass structure has obvious benefit of reduced costs. It also helps in enhancing responsiveness by simplifying decision making. Decision making authority is shifted close to the source of information so that it is faster. However, with the reduced size of middle management, the promotion opportunities for the lower levels diminish significantly.

6. (a) 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.

(b) Turnaround is needed when an enterprise's performance deteriorates to a point that it needs a radical change of direction in strategy, and possibly in structure and culture as well. It is a highly targeted effort to return an organization to profitability and increase positive cash flows to a sufficient level. It is used when both threats and weaknesses adversely affect the health of an organization so much that its basic survival is difficult.

The overall goal of turnaround strategy is to return an underperforming or distressed company to normalcy in terms of acceptable levels of profitability, solvency, liquidity and cash flow. To achieve its objectives, turnaround strategy must reverse causes of distress, resolve the financial crisis, achieve a rapid improvement in financial performance, regain stakeholder support, and overcome internal constraints and unfavourable industry characteristics.