


MOCK TEST PAPER – 2
INTERMEDIATE (IPC) OLD COURSE: GROUP – II
PAPER – 7: INFORMATION TECHNOLOGY AND STRATEGIC MANAGEMENT
SECTION – A: INFORMATION TECHNOLOGY

ANSWERS

MULTIPLE CHOICE QUESTIONS

1. (c) Audit
2. (c) Orchestration
3. (a) Source
4. (a) (i), (iv), (ii), (iii)
5. (b) Manual
6. (b) 
7. (a) Random Access Memory (RAM) is an example of Secondary Storage device.
8. (d) Session Layer
9. (c) SCM
10. (c) Real-time Process System

DESCRIPTIVE QUESTIONS

1. (a) 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. The front end is the side the computer user, or client, sees. The back end is the “cloud” section of the system.
 - **Front End:** The Front End of the cloud computing system comprises of the client’s devices (or it may be a computer network) and some applications are needed for accessing the cloud computing system. All the cloud computing systems do not give the same interface to users. For example-Web services like electronic mail programs use some existing web browsers such as Firefox, Microsoft’s internet explorer or Apple’s Safari. Other types of systems have some unique applications which provide network access to its clients.
 - **Back End:** The Back End refers to some physical peripherals. 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. Theoretically, a cloud computing system can include practically any type of web application program such as video games to applications for data processing, software development and entertainment residing on its individual dedicated server for services. There are some set of rules, generally called as Protocols which are followed by this server and it uses a special type of software known termed as Middleware that allow computers that are connected on networks to communicate with each other.
- (b) The success of any Business Process Automation shall only be achieved when BPA ensures the following:
 - ◆ **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.
2. (a) **Client:** A client is a single-user workstation that provides a presentation services and the appropriate computing, connectivity and the database services relevant to the business need.

Server: A server is one or more multi-user processors with shared memory providing computing, connectivity and the database services and the interfaces relevant to the business need.

Working of a Client/Server Network is discussed below:

- Servers are typically powerful computers running advanced network operating systems. Servers can host e-mail; store common data files and serve powerful network applications such as Microsoft's SQL Server. As a centerpiece of the network, the server validates login to the network and can deny access to both networking resources as well as client software.
 - End user Personal Computer or Network Computer workstations are the Clients.
 - Clients are interconnected by local area networks and share application processing with network servers, which also manage the networks. Client and Server can operate on separate computer platforms.
 - Either the client platform or the server platform can be upgraded without having to upgrade the other platform.
 - The server is able to service multiple clients concurrently; in some client/server systems, clients can access multiple servers.
 - Action is usually initiated at the client end, not the server end.
 - The network system implemented within the client/server technology is commonly called by the computer industry as **Middleware**. Middleware is all the distributed software needed to allow clients and servers to interact. General Middleware allows for communication, directory services, queuing, distributed file sharing, and printing.
- (b) The Data Processing Cycle consists of following basic steps with alerts, controls and feedback at each step:
- **Data input** - Involves the activities like capturing the data, implementing control procedures, recording in journals, posting to ledgers and preparation of reports.
 - **Data storage** - Involves organizing the data in master file or reference file of an automated system for easy and efficient access.
 - **Data processing** - Involves addition, deletion and updating of the data in the transaction file, master file or reference file.
 - **Information output** - Involves generation of documents and managerial reports in printable or electronic form for addressing queries, to control operational activities and help the management in decision making.

The controls on the data are maintained using Audit Trials. This is done by capturing snapshots or by tracing the flow of data. This provides a means to check the accuracy and validity of ledger postings.

3. (a) The Phase "**System Implementation**" in System Development Life Cycle (SDLC) examines that 'How will the Solution be put into effect'? This phase involves the following steps:
- Coding and testing of the system;
 - Acquisition of hardware and software; and
 - Either installation of the new system or conversion of the old system to the new one.

In **Installation**, there are following major activities:

- Installing the new hardware, which may involve extensive re-cabling and changes in office layouts;
- **Training** the users on the new system; and
- **Conversion** of master files to the new system or creation of new master files.

In **Conversion**, there are following major activities:

- **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.

(b) Benefits for micro-businesses and small to medium enterprises are as follows:

- **Paperless lodgment** - Eliminates the hassle of paper work and associated costs;
- **Electronic record keeping** – Stores the reports securely in the accounting or bookkeeping system;
- **Pre-filled forms** - Reports are automatically pre-filled with information existing in the accounting or bookkeeping system, as well as from information held by government, saving valuable time;
- **Ease of sharing** – Sharing between client, accountant, tax agent or bookkeeper for checking;
- **Secure AUSkey authentication** - AUSkey is a common authentication solution for business-to-government online services.
- **Same-time validation** - receive a fast response that any lodgment has been received.

4. (a) **Communication Controls:** 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. Three types of exposure arise in the communication subsystem.

- As data is transported across a communication subsystem, it can be impaired through attenuation, delay distortion, and noise.
- The hardware and software components in a communication subsystem can fail.
- The communication subsystem can be subjected to passive or active subversive attacks.
- **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 - Guided Media or 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 (using Parity Checking, Cyclic Redundancy Checks (CRC) and Loop Check) and

Error Correction (using forward Error Correcting Codes and Backward 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); the study of these is beyond the scope of this book.
 - **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) **Explicit Knowledge:** Explicit knowledge is that which can be formalized easily and as a consequence is easily available across the organization. Explicit knowledge is articulated, and represented as spoken words, written material and compiled data. This type of knowledge is codified, easy to document, transfer and reproduce. For example – Online tutorials, Policy and procedural manuals.

Tacit Knowledge: Tacit knowledge, on the other hand, resides in a few often-in just one person and hasn't been captured by the organization or made available to others. Tacit knowledge is unarticulated and represented as intuition, perspective, beliefs, and values that individuals form based on their experiences. It is personal, experimental and context-specific. It is difficult to document and communicate the tacit knowledge. For example – hand-on skills, special know-how, employee experiences.

5. (a) BPR implies not just change but dramatic change in the way a business functions. It would potentially impact every aspect of the business and the changes would be of a scale that could result in either drastic improvement or massive failures. Research has identified some key factors for BPR projects to succeed. These factors are as follows:
- (i) **Organization wide commitment:** Changes to business processes would have a direct impact on processes, organizational structures, work culture, information flows, infrastructure & technologies and job competencies. This requires strong leadership, support and sponsorship from the top management. Top management not only has to recognize the need for change but also has to convince every affected group about the potential benefits of the change to the organization as a whole and secure their commitment.
 - (ii) **BPR team composition:** A BPR team is formed which would be responsible to take the BPR project forward and make key decisions and recommendations. The BPR team would include active representatives from top management, business process owners, technical experts and

users. It is important that the teams must be kept of manageable size to ensure well-coordinated, effective and efficient completion of the entire BPR process.

- (iii) **Business needs analysis:** It is important to identify exactly what current processes need reengineering. This would help determine the strategy and goals for BPR. A series of sessions are held with the process owners and stakeholders and all the ideas would be evaluated to outline and conceptualize the desired business process. The outcome of this analysis would be BPR project plan – identifying specific problem areas, setting goals and relating them to key business objectives. This alignment of the BPR strategy with the enterprise strategy is one of the most important aspects.
 - (iv) **Adequate IT infrastructure:** Adequate investment in IT infrastructure in line is of vital importance to successful BPR implementation. An IT infrastructure is a set of hardware, software, networks, facilities, etc. (including all of the information technology), in order to develop, test, deliver, monitor, control or support IT services. Effective alignment of IT infrastructure to BPR strategy would determine the success of BPR efforts.
 - (v) **Effective change management:** BPR involves changes in people behavior and culture, processes and technologies. Hence, resistance would be a natural consequence which needs to be dealt with effectively. An effective change management process would consider the current culture to foster a change in the prevailing beliefs, attitudes and behaviors effectively. The success of BPR depends on how effectively management conveys the need for change to the people.
 - (vi) **Ongoing continuous improvement:** BPR is an ongoing process hence innovation and continuous improvement are key to the successful implementation of BPR.
- (b) **Anti – Malware:** Malware, short for malicious software, is any software used to disrupt computer operation, gather sensitive information, or gain access to private computer systems. It is an umbrella term used to refer to a variety of forms of hostile or intrusive software, including computer viruses, worms, trojan horses etc. and other malicious programs. Anti-malware network tools help administrators identify block and remove malware. They enable the IT department to tailor its anti-malware policies to identify known and unknown malware sources. Malware is always on the lookout for network vulnerabilities - in security defences, operating systems, browsers, applications and popular targets such as Adobe Flash, Acrobat and Reader - that they can exploit to fully access a victim's network. Best practices call for a multipronged defence that might also include IP blacklisting, data loss prevention (DLP) tools, anti-virus and anti-spyware software, web browsing policies, egress filtering, and outbound-traffic proxies.

SECTION – B: STRATEGIC MANAGEMENT

SUGGESTED ANSWERS/HINTS

1.

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
b	b	d	b	a	c	d	c	d	a
(xi)	(xii)	(xiii)	(xiv)	(xv)					
a	b	a	c	a					

2. The Airlines industry faces stiff competition. However, Luxury Jet has attempted to create a niche market by adopting focused differentiation strategy. A focused differentiation strategy requires offering unique features that fulfil the demands of a narrow market.

Luxury Jet compete in the market based on uniqueness and target a narrow market which provides business houses, high net worth individuals to maintain strict schedules. The option of charter flights provided several advantages including, flexibility, privacy, luxury and many a times cost saving. Apart from conveniences, the facility will provide time flexibility. Travelling by private jet is the most comfortable, safe and secure way of flying your company's senior business personnel.

Chartered services in airlines can have both business and private use. Personalized tourism packages can be provided to those who can afford it.

3. (a) Business environment exhibits many characteristics as follows:

- **Environment is complex:** The environment consists of a number of factors, events, conditions and influences arising from different sources and is complex because it is somewhat easier to understand in parts but difficult to grasp in totality.
- **Environment is dynamic:** The environment is constantly changing in nature. Due to the many and varied influences operating; there is dynamism in the environment causing it to continuously change its shape and character.
- **Environment is multi-faceted:** What shape and character an environment assumes depends on the perception of the observer. A particular change in the environment, or a new development, may be viewed differently by different observers, i.e. as an opportunity for one company and a threat for another.
- **Environment has a far reaching impact:** The growth and profitability of an organization depends critically on the environment in which it exists. And thus any environmental change has an impact on the organization in several different ways.

(b) Corporate strategy in the first place ensures the growth of the organisation and ensures the correct alignment of the organization with its environment. It serves as the design for filling the strategic planning gap. It also helps build the relevant competitive advantages. It works out the right fit between the organization and its external environment. Basically the purpose of corporate strategy is to harness the opportunities available in the environment, countering the threats embedded therein.

Corporate strategy brings methodical responses to the environment. Strategy is the opposite of adhoc responses to the changes in the environment in competition, consumer tastes, technology and other variables. It amounts to long-term, well thought-out and prepared responses to the various environment forces.

4. (a) Experience curve is similar to learning curve which explains the efficiency gained by workers through repetitive productive work. Experience curve is based on the commonly observed phenomenon that unit costs decline as a firm accumulates experience in terms of a cumulative

volume of production. The implication is that larger firms in an industry would tend to have lower unit costs as compared to those of smaller organizations, thereby gaining a competitive cost advantage. Experience curve results from a variety of factors such as learning effects, economies of scale, product redesign and technological improvements in production.

The concept of experience curve is relevant for a number of areas in strategic management. For instance, experience curve is considered a barrier for new firms contemplating entry in an industry. It is also used to build market share and discourage competition.

- (b) **Top-Down and Bottom-Up Strategic Planning:** Strategic planning determines where an organization is going over the next year or more and the ways for going there. The process is organization-wide or focused on a major function such as a division. As such strategic planning is a top level management function. The flow of planning can be from corporate to divisional level or vice-versa. There are two approaches for strategic planning - top down or bottom up.

Top down strategic planning describes a centralized approach to strategy formulation in which the corporate centre or head office determines mission, strategic intent, objectives and strategies for the organization as a whole and for all parts. Unit managers are seen as implementers of pre-specified corporate strategies.

Bottom up strategic planning is the characteristic of autonomous or semi-autonomous divisions or subsidiary companies in which the corporate centre does not conceptualize its strategic role as being directly responsible for determining the mission, objectives, or strategies of its operational activities. It may prefer to act as a catalyst and facilitator, keeping things reasonably simple and confining itself to perspective and broader strategic intent.

5. (a) Marketing mix is a systematic way of classifying the key decision areas of marketing management. It is the set of controllable marketing variables that the firm blends to produce the response it wants in the target market. The original framework of marketing mix comprises of 4Ps- product, price, place and promotion. These are subsequently expanded to highlight certain other key decision areas like people, processes, and physical evidence. The elements of original framework are:

- **Product:** It stands for the “goods-and-service” combination the company offers to the target market.
- **Price:** It stands for the amount of money customers have to pay to obtain the product.
- **Place:** It stands for company activities that make the product available to target consumers and include marketing channel, distribution policies and geographical availability.
- **Promotion:** It stands for activities that communicate the merits of the product and persuade target consumers to buy it.

- (b) A culture where creativity, embracing change, and challenging the status quo are pervasive themes is very conducive to successful execution of a product innovation and technological leadership strategy. 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 is very conducive to successful execution of a strategy of delivering superior customer service.

A strong strategy-supportive culture nurtures and motivates people to do their jobs in ways conducive to effective strategy execution; it provides structure, standards, and a value system in which to operate; and it promotes strong employee identification with the company's vision, performance targets, and strategy. All this 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 company's vision, do their jobs competently and with enthusiasm, and collaborate with others as needed to bring the strategy to success.

6. (a) Benchmarking is a process of finding the best practices within and outside the industry to which an organisation belongs. Knowledge of the best practices helps in setting standards and finding ways to match or even surpass own performances with the best performances.

Benchmarking is a process of continuous improvement in search for competitive advantage. Firms can use benchmarking process to achieve improvement in diverse range of management function such as mentioned below:

- Maintenance operations,
- Assessment of total manufacturing costs,
- Product development,
- Product distribution,
- Customer services,
- Plant utilisation levels; and
- Human resource management.

- (b) Inbound logistics are the activities concerned with receiving, storing and distributing the inputs to the product/service. It includes all activities such as materials handling, stock control, transport, etc.

Outbound logistics relate to collection, storage and distribution of the product to customers. It includes all activities such as storage/warehousing of finished goods, order processing, scheduling deliveries, operation of delivery vehicles, etc.