Test Series: March, 2022

MOCK TEST PAPER-I

INTERMEDIATE GROUP – II

PAPER – 7: ENTERPRISE INFORMATION SYSTEMS AND STRATEGIC MANAGEMENT SECTION – A:

Enterprise Information Systems

ANSWERS

Part I: MULTIPLE CHOICE QUESTIONS

1 **(a)** Data Flow Diagram

2 **(b)** Stock Journal

3 **(a)** Update Control

4 **(c)** e-Rupi

5 **(a)** Internet Banking Application Server

6 **(b)** 200

7 **(a)** (v) - (viii) - (vii) - (vi) - (i) - (iv) - (iii) - (ix) - (ii)

8 **(a)** (i) - I, (ii) - IV, (iii) - II, (iv) - III

9 **(b)** (i) - II, (ii) - IV, (iii) - I, (iv) – III

10 **(a)** (i) - I, (ii) - II, (iii) - III, (iv) - IV

Part II: DESCRIPTIVE QUESTIONS

1. **(a)** The various modes of Electronic Funds Transfer (EFT) are as follows:

- **Real Time Gross Settlement (RTGS)** is an electronic form of funds transfer where the transmission takes place on a real-time basis. In India, transfer of funds with RTGS is done for high value transactions, the minimum amount being ₹ 2 lakh. The beneficiary account receives the funds transferred on a real- time basis**.**
- **National Electronic Funds Transfer (NEFT)** is a nation-wide payment system facilitating one-to-one funds transfer. Under this Scheme, individuals can electronically transfer funds from any bank branch to any individual having an account with any other bank branch in the country participating in the scheme.
- **Immediate Payment Service (IMPS**) is an instant payment inter-bank electronic funds transfer system in India. IMPS offer an inter-bank electronic fund transfer service through mobile phones. Unlike NEFT and RTGS, the service is available 24x7 throughout the year including bank holidays.

(b) Various Controls under the Application Control Framework of Information Systems are as follows:

- Boundary Control
- Input Control
- Processing Control
- Database Control
- Output Control
- Communication Control

2. **(a)** Various modules of Enterprise Resource Planning (ERP) is integrated so that the master data across all the ERP modules can be same and can be shared with other modules where-ever required. The integration of ERP's Material Management (MM) Module with other modules is as under:

(i) **Material Management Integration with Finance and Controlling (FICO):** It is integrated in the area like Material Valuation, Vendor payments, Material costing etc. Whenever any inventory posting is done, it updates the General Ledger (G/L) accounts online in the background. Logistics invoice verification will create vendor liability in vendor account immediately on posting the document. Any advance given against the purchase order updates the Purchase Order history. For every inventory posting, there is corresponding Controlling document to update profit centre accounting reporting.

(ii) **Material Management Integration with Production Planning (PP):** It is integrated in the areas like Material Requirement Planning, Receipts/issues against production orders, Availability check for stocks etc. Material requirement Planning is based on Stocks, expected receipts, expected issues. It generates planned orders or purchase requisitions which can be converted to purchase orders/Contracts. Inventory Management is responsible for staging of the components required for production orders. The receipt of the finished products in the Warehouse is posted in Inventory Management.

(iii) **Material Management Integration with Sales and Distribution (SD):** It is integrated in the areas like Delivery, Availability Check, Stock transfers requirements etc. As soon as a sales order is created, it can initiate a dynamic availability check of stocks on hand. When the delivery is created, the quantity to be delivered is marked as "Scheduled for delivery". It is deducted from the total stock when the goods issue is posted. Purchase order can be directly converted to delivery for a stock transfer requirement.

(iv) **Material Management Integration with Quality Management (QM):** It is integrated with QM for Quality inspection at Goods Receipt, In-process inspection etc. In the case of a goods movement, the system determines whether the material is subject to an inspection operation. If so, a corresponding activity is initiated for the movement in the Quality Management system. Based on quality parameters, vendor evaluation is done.

(v) **Material Management Integration with Plant Maintenance (PM):** The material/service requirement is mentioned in Maintenance order. This leads to generation of Purchase Requisition (PR). This PR will be converted to Purchase Order (PO) by MM. The goods for a PO will be awarded to Maintenance by MM. The spares which were reserved for maintenance order will be issued by MM against the reservation number.

(b) Various application areas of Blockchain are discussed below:

- **Financial Services:** Blockchain can be used to provide an automated trade lifecycle in terms of the transaction log of any transaction of asset or property - whether physical or digital such as laptops, smartphones, automobiles, real estate, etc. from one person to another.
- **Healthcare:** Blockchain provides secure sharing of data in healthcare industry by increasing the privacy, security, and interoperability of the data by eliminating the interference of third party and avoiding the overhead costs.
- **Government:** At the government front, there are instances where the technical decentralization is necessary but politically should be governed by governments like land registration, vehicle registration and management, e-voting etc. Blockchain improves the

transparency and provides a better way to monitor and audit the transactions in these systems.

- **Travel Industry:** Blockchain can be applied in money transactions and in storing important documents like passports/other identification cards, reservations and managing travel insurance, loyalty, and rewards thus, changing the working of travel and hospitality industry.
- **Economic Forecasts:** Blockchain makes possible the financial and economic forecasts based on decentralized prediction markets, decentralized voting, and stock trading, thus enabling the organizations to plan and shape their businesses.

3. (a) The activities that the Systems Development Management team of KK Software would perform to develop the proposed system for ABC Ltd. are as follows:

(i) Problem definition and Feasibility assessment: Information Systems can be developed to help resolve problems or to take advantage of opportunities. All the stakeholders must reach to agreement on the problem and should understand the possible threats associated with possible solutions/systems related to asset safeguarding, data integrity, system effectiveness, and system efficiency. The feasibility assessment is done to obtain a commitment to change and to evaluate whether cost-effective solutions are available to address the problem or opportunity that has been identified. All solutions must be properly and formally authorized to ensure their economic justification and feasibility. This requires that each new solution request be submitted in written form by stakeholders to systems professionals who have both the expertise and authority to evaluate and approve (or reject) the request.

(ii) Analysis of existing system: Designers need to analyze the existing system that involves two major tasks:

- Studying the existing organizational history, structure, and culture to gain an understanding of the social and task systems in place, the ways these systems are coupled, and the willingness if stakeholders to change.
- Studying the existing product and information flows as the proposed system will be based primarily on current product and information flows. The designers need to understand the strengths and weaknesses of existing product to determine the new system requirements and the extent of change required.

(iii) Information Processing System design: This phase involves following activities:

- **Elicitation of detailed requirements:** Either ask the stakeholders for their requirement in case they are aware about it or discover the requirement through analysis and experimentation in case stakeholders are uncertain about their need.
- **Design of data/information flow:** The designers shall determine the flow of data/information and transformation points, the frequency and timing of the data and information flows and the extent to which data and information flows will be formalized. Tools such as Data Flow Diagram (DFD) can be used for this purpose.
- **Design of Database and user interface:** Design of database involves determining its scope and structure whereas the design of user interface determines the ways in which users interact with a system.
- **Physical design:** This involves breaking up the logical design into units which in turn can be decomposed further into implementation units such as programs and modules.

- **Design of the hardware/software platform:** In case the hardware and software platforms are not available in the organization, the new platforms are required to be designed to support the proposed system.

(iv) **Hardware/Software acquisition and procedures development:** To purchase the new application system or hardware, a request for a proposal must be prepared, vendor proposals are sought, and final decisions is made based on evaluation. During procedures development, designers specify the activities that users must undertake to support the on-going operation of the system and to obtain useful output.

(v) **Acceptance Testing and Conversion:** Acceptance Testing is carried out to identify errors or deficiencies in the system prior to its final release into production use. The conversion phase comprises the activities undertaken to place the new system in operation.

(vi) **Operation and Maintenance:** In this phase, the new system is run as a production system and periodically modified to better meet its objectives. A formal process is required to identify and record the need for changes to a system and to authorize and control the implementation of needed changes. The maintenance activities associated with these systems need to be approved and monitored carefully.

(b) The process of Data Analytics involves the following:

- **Data Collection:** The analytics process starts with data collection, in which data scientists identify the information they need for an analytics application and then work on their own or with data engineers and IT staffers to assemble it for use. Data from different source systems may need to be combined via data integration routines transformed into a common format and loaded into an analytics system such as a Hadoop cluster, NoSQL database or data warehouse.
- **Find and Fix Data Quality Problem:** Once the data that's needed is in place, the next step is to find and fix data quality problems that could affect the accuracy of analytics applications. That includes running data profiling and data cleansing jobs to make sure that the information in a data set is consistent and that errors and duplicate entries are eliminated. A data scientist builds an analytical model, using predictive modelling tools or other analytics software and programming languages such as Python, Scala, R and SQL. Finally, the model is run in production mode against the full data set, something that can be done once to address a specific information need or on an ongoing basis as the data is updated.
- **Building Analytical Model:** In some cases, analytics applications can be set to automatically trigger business actions. For example, stock trades by a financial services firm. Otherwise, the last step in the data analytics process is communicating the results generated by analytical models to business executives and other end users to aid in their decision-making. That usually is done with the help of data visualization techniques, which analytics teams use to create charts and other info graphics designed to make their findings easier to understand. Data visualizations often are incorporated into Business Intelligence (BI) dashboard applications that display data on a single screen and can be updated in real time as new information becomes available.

4. **(a)** To develop security architecture of Grid Computing, constraints considerations that need to be kept in mind are as follows:

- **Secured Single Sign-on:** Most of the distributed computing systems use identity-based username and password, authentication, and authorization control for accessing a computing system. To access resources from different administrative domains having different security mechanisms, the user needs to authenticate him/her to different

domains. This is a very irritating and time-consuming process. To resolve this issue, a mechanism should be established in which a user authenticates once only (e.g., at the point of starting a computation) and then are able to acquire resources, use them, and release them and to communicate internally without any further authentication.

- **Resource Management:** Grid resources are from different administrative domains that have their own local resource managers, and a grid does not have full control of these resources. Allocation of resources to co-users, prioritizing local jobs over system jobs, and managing these resources without ownership is a big issue.
- **Data Management**: The users' data-intensive, high-performance computing applications in grid computing require the efficient management and transfer of huge data. Providing secure, efficient, and transparent access to distributed and heterogeneous pool of data is a big issue in grid computing.
- **Management and Protection of Credentials:** The different multiple systems involved in grid computing require different credentials to access them. The credential management and protection of users' credentials such as passwords are big issues involved in grid computing.
- **Interoperability with local security solutions:** The grid security mechanism may provide access to different domains with a single sign-on, the access to a local resource will typically be determined by a local security policy at a local level. It is very difficult to modify every local resource to accommodate inter-domain accesses. Hence, despite of modifying every local resource there is an inter-domain security server for providing security to local resource.
- **Standardization:** Grid computing as a highly integrated system involves multi-purpose protocols and interfaces to resolve the issues explained above. Standardizing these protocols and interfaces is a big issue in grid computing.
- **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.

(b) The Asynchronous attacks of automated environment that fall under Data Related Risks are of following types:

- **Data Leakage:** This involves leaking information out of the computer by means of dumping files to paper or stealing computer reports and tape.
- **Subversive Attacks:** These can provide intruders with important information about messages being transmitted and the intruder may attempt to violate the integrity of some components in the sub-system.
- **Wire-Tapping:** This involves spying on information being transmitted over communication network.
- **Piggybacking:** This is the act of following an authorized person through a secured door or electronically attaching to an authorized telecommunication link that intercepts and alters transmissions. This involves intercepting communication between the operating system and the user and modifying them or substituting new messages.

5. (a) In computer systems, controls should be checked at three levels namely **Configuration**, **Masters**, and **Transaction** level. These are discussed below:

(i) Configuration: Configuration refers to the way a software system is set up. Configuration is the methodical process of defining options that are provided. When any software is

installed, values for various parameters should be set up (configured) as per policies and business process work-flow and business process rules of the enterprise. The various modules of the enterprise such as Purchase, Sales, Inventory, Finance, User Access etc. must be configured. Configuration will define how software will function and what menu options are displayed. Some examples of configuration are Mapping of accounts to front end transactions like purchase and sales, User activation and deactivation, User Access and privileges - Configuration and its management and Password Management.

(ii) **Masters:** Masters refer to the way various parameters are set up for all modules of software, like Purchase, Sales, Inventory, and Finance etc. These drive how the software will process relevant transactions. The masters are set up first time during installation and these are changed whenever the business process rules or parameters are changed. Examples are Vendor Master, Customer Master, Material Master, Accounts Master, Employee Master etc. Any changes to these data have to be authorized by appropriate personnel and these are logged and captured in exception reports. The way masters are set up will drive the way software will process transactions of that type. For example - The Customer Master will have the credit limit of the customer. When an invoice is raised, the system will check against the approved credit limit and if the amount invoiced is within the credit limit, the invoice will be created, if not the invoice will be put on "credit hold" till proper approvals are obtained.

(iii) **Transactions:** Transactions refer to the actual transactions entered through menus and functions in the application software, through which all transactions for specific modules are initiated, authorized, or approved. For example - Sales transactions, Purchase transactions, Stock transfer transactions, Journal entries and Payment transactions. Implementation or review of specific business process can be done from risk or control perspective. In case of risk perspective, we need to consider each of the key sub-processes or activities performed in a business process and look at existing and related control objectives and existing controls and the residual risks after application of controls. The residual risk should be knowingly accepted by the management.

(b) The key measures required to implement Network security and secure configuration in digital environment of bank are as follows:

- Multi-layered boundary defense through properly configured proxy servers, firewalls, intrusion detection systems to protect the network from any malicious attacks and to detect any unauthorized network entries.
- Different LAN segments for in-house/onsite ATM and CBS branch/network to confirm the adequacy of bandwidth to deal with the volume of transactions so as to prevent slowing down and resulting in lower efficiency.
- To ensure secure network configuration; proper usage of routers, hubs and switches should be envisaged.
- Periodic security review of systems and terminals to assess the network's vulnerability and identify the weaknesses.
- Identification of the risks to ensure that risks are within the bank's risk appetite and are managed appropriately.

SECTION – B: STRATEGIC MANAGEMENT

SUGGESTED ANSWERS/HINTS

1. (A)

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

(B) (a)

(C) (c)

(D) (d)

(E) (a)

(F) (d)

(G) (c)

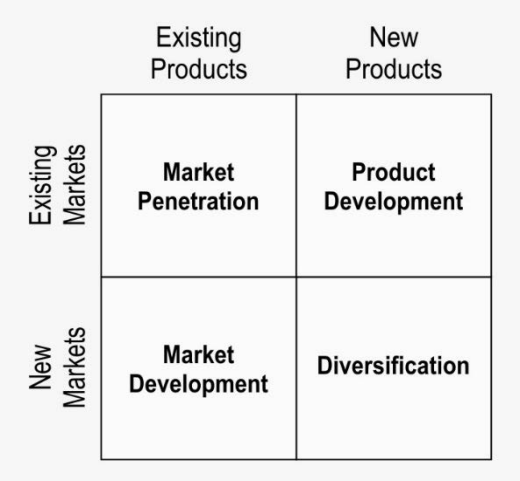
2. According to Porter, strategies allow organizations to gain competitive advantage from three different bases: cost leadership, differentiation, and focus. Porter called these base generic strategies.

Moneyland Ltd. Bank targets a narrow segment of the market, offering unique and desirable products. The bank will want to keep its costs under control, but it will not reduce costs at the expenses of reducing the quality levels of the customer service it offers. By maintaining high quality levels, it will still be able to charge a premium for its services. Thus, the strategy adopted by Moneyland Ltd. Bank is **Focused Differentiation**.

A focused differentiation strategy requires offering unique features that fulfil the demands of a narrow market. Some firms using a focused differentiation strategy concentrate their efforts on a particular sales channel, such as selling over the internet only. Others target particular demographic groups. Firms that compete based on uniqueness and target a narrow market are following a focused differentiations strategy.

3. (a) The Ansoff's product market growth matrix (proposed by Igor Ansoff) is a useful tool that helps businesses decide their product and market growth strategy. With the use of this matrix, a business can get a fair idea about how its growth depends upon its markets in new or existing products in both new and existing markets.

The Ansoff's product market growth matrix is as follows:



Ansoff's Product Market Growth Matrix

Sky chemical industry can adopt market penetration, product development, market development or diversification simultaneously for its different products.

Market penetration refers to 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.

Market development refers to a growth strategy where the business seeks to sell its existing products into new markets. It is a strategy for company growth by identifying and developing new markets for the existing products of the company.

Product development refers to a growth strategy where business aims to introduce new products into existing markets. It is a strategy for company growth by offering modified or new products to current markets.

Diversification refers to a growth strategy where a business markets new products in new markets. It is a strategy by starting up or acquiring businesses outside the company's current products and markets.

As market conditions change overtime, a company may shift product-market growth strategies. For example, when its present market is fully saturated a company may have no choice other than to pursue new market.

(b) The presence of strategic management cannot counter all hindrances and always achieve success as there are limitations attached to strategic management. These can be explained in the following lines:

- Environment is highly complex and turbulent. It is difficult to understand the complex environment and exactly pinpoint how it will shape-up in future. The organisational estimate about its future shape may awfully go wrong and jeopardise all strategic plans. The environment affects as the organisation has to deal with suppliers, customers, governments and other external factors.
- Strategic Management is a time-consuming process. Organisations spend a lot of time in preparing, communicating the strategies that may impede daily operations and negatively impact the routine business.
- Strategic Management is a costly process. Strategic management adds a lot of expenses to an organization. Expert strategic planners need to be engaged, efforts are made for analysis of external and internal environments devise strategies and properly implement. These can be really costly for organisations with limited resources particularly when small and medium organisation create strategies to compete.
- In a competitive scenario, where all organisations are trying to move strategically, it is difficult to clearly estimate the competitive responses to the strategies.

4. (a) FlyBee is a notebook and diary brand. But to grow further, FlyBee decided to take up competition with Gecko in pens segment and thereby launched, FlyPens. FlyBee that is hitherto not into producing pens 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.

(b) A strategic manager defines the strategic intent of the organisation and take it on the path of achieving the organisational objectives. There can be a number of areas that a strategic manager should concentrate on to achieve desired results. They commonly establish long-term objectives in seven areas as follows.

- Profitability.
- Productivity.
- Competitive Position.
- Employee Development.
- Employee Relations.
- Technological Leadership.
- Public Responsibility.

5. (a) 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 that involves a corporate strategy focused on new markets, products, services and new ways of doing business.

Three steps for initiating strategic change are:

(i) **Recognise the need for change** – The first step is to diagnose the which facets of the present corporate culture are strategy supportive and which are not.

(ii) **Create a shared vision to manage change** – Objectives of both individuals and organisation should coincide. There should be no conflict between them. This is possible only if the management and the organisation members follow a shared vision.

(iii) **Institutionalise the change** – This is an action stage which requires the implementation of the changed strategy. Creating and sustaining a different attitude towards change is essential to ensure that the firm does not slip back into old ways of doing things.

(b) Functional structure is widely used because of its simplicity and low cost. A functional structure groups tasks and activities by business function.

The functional structure consists of a chief executive officer or a managing director and limited corporate staff with functional line managers in dominant functions such as production, accounting, marketing, R&D, engineering, and human resources. Disadvantages of a functional structure are that it forces accountability to the top, minimizes career development opportunities, etc.

6. (a)

Strategic planning	Operational planning
Strategic planning shapes the organisation and its resources.	Operational planning deals with current deployment of resources.
Strategic planning assesses the impact of environmental variables.	Operational planning develops tactics rather than strategy.
Strategic planning takes a holistic view of the organisation.	Operational planning projects current operations into the future.
Strategic planning develops overall objectives and strategies.	Operational planning makes modifications to the business functions but not fundamental changes.
Strategic planning is concerned with the long-term success of the organisation.	Operational planning is concerned with the short-term success of the organisation.
Strategic planning is a senior management responsibility.	Operational planning is the responsibility of functional managers.

(b) Publicity and Sales promotion are adopted by organizations when they are undertaking promotion in the overall marketing mix.

Publicity is a non-personal form of promotion similar to advertising. However, no payments are made to the media as in case of advertising. Organizations skillfully seek to promote themselves and their product without payment. Publicity is communication of a product, brand or business by placing information about it in the media without paying for the time or media space directly.

Thus, it is way of reaching customers with negligible cost. Basic tools for publicity are press releases, press conferences, reports, stories, and internet releases. These releases must be of interest to the public.

Sales promotion is an omnibus term that includes all activities that are undertaken to promote the business but are not specifically included under personal selling, advertising or publicity. Activities like discounts, contests, money refunds, installments, kiosks, exhibitions and fairs constitute sales promotion. All these are meant to give a boost to the sales. Sales promotion done periodically may help in getting a larger market share to an organization.