Test Series: November, 2021

MOCK TEST PAPER-II

INTERMEDIATE (NEW): GROUP – II

PAPER – 7: ENTERPRISE INFORMATION SYSTEMS AND STRATEGIC MANAGEMENT

SECTION – A: Enterprise Information Systems

Answers

Part I: Multiple Choice Questions

1. (d) Operational risk

2. (b) Salami Technique

3. (c) Section 66

4. (b) Role-based access controls

5. (b) Foreign Trade (Development and Regulation) Act, 1992

6. (b) Infrastructure as a Service (IaaS)

7. (a) Vulnerability

8. (c) Salary of inspection manager

9. (a) Spoofing

10. (b) Database Server

Part II: Descriptive Questions

1. (a) The three layers of an Application Software are as follows:

- **The Application Layer:** It receives the inputs from the users and performs certain validations like, if the user is authorized to request the transaction.
- **The Operating System Layer:** This layer carries these instructions and processes them using the data stored in the database and returns the results to the application layer.
- **The Database Layer:** It stores the data in a certain form. For a transaction to be completed, all the three layers need to be invoked. Most application software is built on this model these days.

(b) **Automated Teller Machines (ATM) Channel Server:** This server contains the details of ATM account holders. Soon after the facility of using the ATM is created by the Bank, the details of such customers are loaded on to the ATM server. When the Central Database is busy with central end-of- day activities or for any other reason, the file containing the account balance of the customer is sent to the ATM switch. Such a file is called Positive Balance File (PBF). This ensures not only continuity of ATM operations but also ensures that the Central database is always up-to-date. The above process is applicable to stand alone ATMs at the Branch level. As most of the ATMs are attached to the central network, the only control is through ATM Switch.

2. (a) The various technological risks and controls while implementing ERP are as follows:

Aspect	Risk Associated	Control Required
Software Functionality	ERP systems offer a myriad of features and functions, however, not all organizations require those	Care should be taken to incorporate the features that are required by the organization and supporting additional

	many features. Implementing all the functionality and features just for the sake of it can be disastrous for an organization.	features and functionality that might be required at a future date.
Technological Obsolescence	With the advent of more efficient technologies every day, the ERP system also becomes obsolete as time goes on.	This requires critical choice of technology, architecture of the product, ease of enhancements, ease of upgrading, quality of vendor support.
Enhancement and Upgrades	ERP Systems are not upgraded and kept up-to-date. Patches and upgrades are not installed and the tools are underutilised.	Care must be taken while selecting the vendor and upgrade/support contracts should be signed to minimize the risks.
Application Portfolio Management	These processes focus on the selection of new business applications and the projects required in delivering them.	By bringing to the light the sheer number of applications in the current portfolio, IT organizations can begin to reduce duplication and complexity.

(b) The other service models apart from IaaS, SaaS and PaaS of Cloud Computing are as follows:

- **Communication as a Service (CaaS):** It is an outsourced enterprise communication solution that can be leased from a single vender. The CaaS vendor is responsible for all hardware and software management and offers guaranteed Quality of Service (QoS). It allows businesses to selectively deploy communication devices and modes on a pay-as-you-go, as-needed basis. This approach eliminates the large capital investments. Examples are: Voice over IP (VoIP), Instant Messaging (IM), Collaboration and Videoconferencing application using fixed and mobile devices.
- **Data as a Service (DaaS):** It provides data on demand to a diverse set of users, systems or application. The data may include text, images, sounds, and videos. Data encryption and operating system authentication are commonly provided for security. DaaS users have access to high-quality data in a centralized place and pay by volume or data type, as needed. However, as the data is owned by the providers, users can only perform read operations on the data. DaaS is highly used in geography data services and financial data services.
- **Security as a Service (SECaaS):** It is an ability given to the end user to access the security service provided by the service provider on a pay-per-use basis. It is a new approach to security in which cloud security is moved into the cloud itself whereby cloud service users will be protected from within the cloud using a unified approach to threats.
- **Identity as a Service (IDaaS):** It is an ability given to the end users; typically, an organization or enterprise; to access the authentication infrastructure that is built, hosted, managed, and provided by the third-party service provider. Generally, IDaaS includes directory services, authentication services, risk and event monitoring, single sign-on services, and identity and profile management.

3. (a) The detailed concern that auditors should address on various activities involved in Programming Management Control are as follows:

- **Planning:** Auditors should evaluate whether nature of and extent of planning are appropriate to different types of software that are developed or acquired. They must evaluate how well the planning work is being undertaken.
- **Control:** They must evaluate whether the nature of an extent of control activities undertaken are appropriate for the different types of software that are developed or acquired. They must gather evidence on whether the control procedures are operating reliably. For example -

they might first choose a sample if past and current software development and acquisition projects carried out at different locations in the organization they are auditing.

- **Design:** Auditors should find out whether programmers use some type of systematic approach to design. Auditors can obtain evidence of the design practices used by undertaking interviews, observations, and reviews of documentation.
- **Coding:** Auditors should seek evidence –
  - On the level of care exercised by programming management in choosing a module implementation and integration strategy.
  - To determine whether programming management ensures that programmers follow structured programming conventions.
  - To check whether programmers employ automated facilities to assist them with their coding work.
- **Testing:** Auditors can use interviews, observations, and examination of documentation to evaluate how well unit testing is conducted. Auditors are most likely concerned primarily with the quality of integration testing work carried out by information systems professionals rather than end users. Auditors primary concern is to see that whole-of-program tests have been undertaken for all material programs and that these tests have been well-designed and executed.
- **Operation and Maintenance:** Auditors need to ensure effectively and timely reporting of maintenance needs that occur so that maintenance is carried out in a well-controlled manner. Auditors should ensure that management has implemented a review system and assigned responsibility for monitoring the status of operational programs.

(b) Information Security is comprised of the following sub-processes:

- **Information Security Policies, Procedures and practices:** This refers to the processes relating to approval and implementation of information security. The security policy is basis on which detailed procedures and practices are developed and implemented at various units/department and layers of technology, as relevant. These cover all key areas of securing information at various layers of information processing and ensure that information is made available safely and securely. For example – Non-disclosure agreement with employees, vendors etc., KYC procedures for security.
- **User Security Administration:** This refers to security for various users of information systems. The security administration policy documents define how users are created and granted access as per organization structure and access matrix. It also covers the complete administration of users right from creation to disabling of users is defined as part of security policy.
- **Application Security:** This refers to how security is implemented at various aspects of application right from configuration, setting of parameters and security for transactions through various application controls. For example – Event Logging.
- **Database Security:** This refers to various aspects of implementing security for the database software. For example - Role based access privileges given to employees.
- **Operating System Security:** This refers to security for operating system software which is installed in the servers and systems which are connected to the servers.

- **Network Security:** This refers to how security is provided at various layers of network and connectivity to the servers. For example - Use of virtual private networks for employees, implementation of firewalls etc.
- **Physical Security:** This refers to security implemented through physical access controls. For example - Disabling the USB ports.

4. (a) Risk is any event that may result in a significant deviation from a planned objective resulting in an unwanted negative consequence. In other words, Risk can be defined as the potential harm caused if a threat exploits a particular vulnerability to cause damage to an asset.

The Risk Management Strategies are as follows:

- **Tolerate/Accept the risk**. One of the primary functions of management is managing risk. Some risks may be considered minor because their impact and probability of occurrence is low. In this case, consciously accepting the risk as a cost of doing business is appropriate. The risks should be reviewed periodically to ensure that their impact remains low.
- **Terminate/Eliminate the risk**. It is possible for a risk to be associated with the use of a technology, supplier, or vendor. The risk can be eliminated by replacing the technology with more robust products and by seeking more capable suppliers and vendors.
- **Transfer/Share the risk**. Risk mitigation approaches can be shared with trading partners and suppliers. A good example is outsourcing infrastructure management. In such a case, the supplier mitigates the risks associated with managing the IT infrastructure by being more capable and having access to more highly skilled staff than the primary organization. Risk also may be mitigated by transferring the cost of realized risk to an insurance provider.
- **Treat/mitigate the risk**. Where other options have been eliminated, suitable controls must be devised and implemented to prevent the risk from manifesting itself or to minimize its effects.
- **Turn back**. Where the probability or impact of the risk is very low, then management may decide to ignore the risk.

(b) Few examples of the controls of Segregation of Duties (SoD) are as follows:

- **Transaction Authorization:** Information systems can be programmed or configured to require two (or more) persons to approve certain transactions. This can be seen in retail establishments where a manager is required to approve a large transaction or a refund. In IT applications, transactions meeting certain criteria (for example, exceeding normally accepted limits or conditions) may require a manager's approval to be able to proceed.
- **Split custody of high-value assets:** Assets of high importance or value can be protected using various means of split custody. For example, a password to an encryption key that protects a highly-valued asset or sensitive data can be split in two halves, one half assigned to two persons, and the other half assigned to two persons, so that no single individual knows the entire password. Banks do this for central vaults, where a vault combination is split into two or more pieces so that two or more are required to open it.
- **Workflow:** Applications that are workflow-enabled can use a second (or third) level of approval before certain high-value or high-sensitivity activities can take place. For example, a workflow application that is used to provision user accounts can include extra management approval steps in requests for administrative privileges.
- **Periodic reviews:** IT or internal audit personnel can periodically review user access rights to identify whether any segregation of duties issues exist. Care should also be taken to

ensure that the access privileges are reviewed and updated with the changing job roles. The access privileges for each worker can be compared against a segregation of duties control matrix.

5. (a) The different steps involved in any e-commerce transaction are as follows:

i. **Customers' login:** Few e-commerce merchants may allow same transactions to be done through phone, but the basic information flow is e-mode.

ii. **Product / Service Selection:** Customer selects products / services from available options.

iii. **Customer Places Order:** Order is placed for selected product / service by customer. This step leads to next important activity Payment Gateway.

iv. **Payment Gateway:** The customer selects the payment method. In case payment method is other than Cash on Delivery (COD), the merchant gets the update from payment gateway about payment realisation from customer. In case of COD, e-commerce vendor may do an additional check to validate customer.

v. **Dispatch and Shipping Process:** This process may be executed at two different ends. First if product/service inventory is managed by e-commerce vendor, then dispatch shall be initiated at merchant warehouse. Second, many e-commerce merchants allow third party vendors to sale through merchant websites.

vi. **Delivery Tracking:** Another key element denoting success of e-commerce business is timely delivery. Merchants keep a track of this. All merchants have provided their delivery staff with hand-held devices, where the product / service delivery to customers is immediately updated.

vii. **COD tracking:** In case products are sold on COD payment mode, merchants need to have additional check on matching delivery with payments.

(b) The different categories of various Business Processes depending on type of industry and nature of work are as follows:

I. Operational Processes (or Primary Processes) deal with the core business and value chain. These processes deliver value to the customer by helping to produce a product or service. Operational processes represent essential business activities that accomplish business objectives e.g. purchasing, manufacturing, and sales. Also, Order to Cash cycle (O2C) and Purchase to Pay (P2P) cycles are associated with revenue generation.

II. Supporting Processes (or Secondary Processes) back core processes and functions within an organization. Examples of supporting or management processes include Accounting, Human Resource (HR) Management and workplace safety. One key differentiator between operational and support processes is that support processes do not provide value to customers directly. However, it should be noted that hiring the right people for the right job has a direct impact on the efficiency of the enterprise.

III. Management Processes measure, monitor and control activities related to business procedures and systems. Examples of management processes include internal communications, governance, strategic planning, budgeting, and infrastructure or capacity management. Like supporting processes, management processes do not provide value directly to the customers. However, it has a direct impact on the efficiency of the enterprise.

SECTION – B: STRATEGIC MANAGEMENT

SUGGESTED ANSWERS/HINTS

1. (A)

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

(B) (c)

(C) (c)

(D) (a)

(E) (a)

(F) (b)

(G) (b)

(H) (c)

2. According to Porter, the three different business strategies are: cost leadership, differentiation, and focus. Porter called these base generic strategies.

The information about competitor activities indicates that the market is uninterested in low-cost items, so a cost leadership approach is unlikely to be successful for BHAVNAV. It is suggested to adopt a differentiation strategy and find some way of enabling its laptops to stand out from its rivals.

Differentiation strategy is aimed at broad mass market and involves the creation of a product or service that is perceived by the customers as unique. The uniqueness can be associated with product design, brand image, features, technology, dealer network or customer service.

3. (a) Decision making is a managerial process of selecting the best course of action out of several alternative courses for the purpose of accomplishment of the organizational goals. Decisions may be operational, i.e., which relate to general day-to-day operations. They may also be strategic in nature.

As owner manager at the top level in the company, Shri Alok Kumar should concentrate on strategic decisions. These are higher level decisions having organisation wide implications. The major dimensions of strategic decisions are as follows:

- Strategic decisions require top-management involvement as they involve thinking in totality of the organization.
- Strategic decisions involve significant commitment of organisational resources.
- Strategic decisions necessitate consideration of factors in the firm's external environment.
- Strategic decisions are likely to have a significant impact on the long-term prosperity of the firm.
- Strategic decisions are future oriented.
- Strategic decisions usually have major multifunctional or multi-business consequences.

(b) A strategic alliance is a relationship between two or more businesses that enables each to achieve certain strategic objectives which neither would be able to achieve on its own. The strategic partners maintain their status as independent and separate entities, share the benefits and control over the partnership, and continue to make contributions to the alliance until it is

terminated. The advantages of strategic alliance can be broadly categorised as follows:

(a) **Organizational:** Strategic alliance helps to learn necessary skills and obtain certain capabilities from strategic partners. Strategic partners may also help to enhance productive capacity, provide a distribution system, or extend supply chain.

(b) **Economic:** There can be reduction in costs and risks by distributing them across the members of the alliance. Greater economies of scale can be obtained in an alliance, as production volume can increase, causing the cost per unit to decline.

(c) **Strategic:** Rivals can join together to cooperate instead of compete. Strategic alliances may also be useful to create a competitive advantage by the pooling of resources and skills. This may also help with future business opportunities and the development of new products and technologies. Strategic alliances may also be used to get access to new technologies or to pursue joint research and development.

(d) **Political:** Sometimes strategic alliances are formed with a local foreign business to gain entry into a foreign market either because of local prejudices or legal barriers to entry.

4. (a) Multi divisional structure is composed of operating divisions where each division represents a separate business to which the top corporate officer delegates responsibility for day-to-day operations and business unit strategy to division managers. Multi divisional structure was developed in the 1920, in response to coordination and control related problems in large firms where functional departments often had difficulty dealing with distinct product lines and Markets.

(b) Human resource management has been accepted as a strategic partner in the formulation of organization's strategies and in the implementation of such strategies through human resource planning, employment, training, appraisal and reward systems. The following points should be kept in mind as they can have a strong influence on employee competence:

i. **Recruitment and selection:** The workforce will be more competent if a firm can successfully identify, attract, and select highly competent applicants.

ii. **Training:** The workforce will be more competent if employees are well trained to perform their jobs properly.

iii. **Appraisal of performance:** The performance appraisal is to identify any performance deficiencies experienced by employees due to lack of competence. Such deficiencies, once identified, can often be solved through counselling, coaching or training.

iv. **Compensation:** A firm can usually increase the competency of its workforce by offering pay, benefits and rewards that are not only attractive than those of their competitors but also recognizes merit.

5. (a) Mr. Dutta should adopt business process reengineering (BPR). It is an approach to unusual improvement in operating effectiveness through the redesigning of critical business processes and supporting business systems. It is revolutionary redesign of key business processes that involves examination of the basic process itself. BPR refers to the analysis and redesign of workflows and processes both within the organization and between the organization and the external entities like suppliers, distributors, and service providers.

The orientation of redesigning efforts involves total deconstruction and rethinking of business process BPR involves the following steps:

i. **Determining objectives:** Objectives are the desired end results of the redesign process. They will provide the required focus, direction, and motivation for the redesign process and help in building a comprehensive foundation for the reengineering process.

ii. **Identify customers and determine their needs:** The process designers have to understand customers. The purpose is to redesign business process that clearly provides value addition to the customer.

iii. **Study the existing processes:** The study of existing processes will provide an important base for the process designers. The purpose is to gain an understanding of the 'what', and 'why' of the targeted process.

iv. **Formulate a redesign process plan:** Formulation of redesign plan is the real crux of the reengineering efforts. Customer focussed redesign concepts are identified and formulated. In this step alternative processes are considered, and the best is selected.

v. **Implement the redesigned process:** It is easier to formulate new process than to implement them. Implementation of the redesigned process and application of other knowledge gained from the previous steps is key to achieve dramatic improvements.

(b) Strategic management involves developing the company's vision, environmental scanning, strategy formulation, implementation, evaluation and control. It emphasises the monitoring and evaluation of external opportunities and threats in the light of a company's strengths and weaknesses and designing strategies for the survival and growth. It helps in creation of competitive advantage to outperform the competitors and also guide the company successfully through all changes in the environment.

The major benefits of strategic management are:

- Strategic management gives a direction to the company to move ahead. It defines the goals and mission.
- It helps organisations to be proactive instead of reactive in shaping its future.
- It provides frameworks for all major decisions of an enterprise such as decisions on businesses, products, markets, manufacturing facilities, investments and organisational structure. It provides better guidance to entire organisation on the crucial point - what it is trying to do.
- It helps organisations to identify the available opportunities and identify ways and means to achieve them.
- It serves as a corporate defence mechanism against mistakes and pitfalls.
- It helps to enhance the longevity of the business.
- It helps the organisation to develop certain core competencies and competitive advantages that would facilitate survival and growth.

6. (a)

Divestment Strategy	Liquidation Strategy
Divestment strategy involves the sale or liquidation of a portion of business, or a major division, profit center or SBU.	It involves closing down a firm and selling its assets.
Divestment is usually a part of rehabilitation or restructuring plan and is adopted when a turnaround has been attempted but has proved to be unsuccessful. Option of a turnaround may even be ignored if it is obvious that divestment is the only answer.	Liquidation becomes only option in case of severe and critical conditions where either turnaround and divestment are not seen as solution or have been attempted but failed.
Efforts are made for the survival of organization.	Liquidation as a form of retrenchment strategy is considered as the most extreme and unattractive.

Survival of organization helps in retaining personnel, at least to some extent.	There is loss of employment with stigma of failure.

(b) Supply chain management is an extension of logistic management. However, there are differences between the two. Logistical activities typically include management of inbound and outbound goods, transportation, warehousing, handling of material, fulfillment of orders, inventory management and supply/demand planning. Although these activities also form part of supply chain management, the latter is much broader. Logistic management can be termed as one of its parts that is related to planning, implementing, and controlling the movement and storage of goods, services and related information between the point of origin and the point of consumption.

Supply chain management is an integrating function of all the major business activities and business processes within and across organisations. Supply Chain Management is a systems view of the linkages in the chain consisting of different channel partners – suppliers, intermediaries, third-party service providers and customers. Different elements in the chain work together in a collaborative and coordinated manner. Often it is used as a tool of business transformation and involves delivering the right product at the right time to the right place and at the right price.