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SUGGESTED SOLUTION

INTERMEDIATE

SUBJECT- EIS AND S.M.

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SECTION -A

ANSWER-1

1. **B**
2. **A**
3. **A**
4. **C**
5. **D**
6. **B**
7. **D**
8. **C**
9. **C**
10. **C**

ANSWER-1

ANSWER-A

Role-Based Access Control (RBAC): In computer systems security, RBAC also referred as Role-Based Security is an approach to restricting system access to authorized users. It is used by most enterprises and can implement mandatory access control or discretionary access control. RBAC is a policy neutral access control mechanism defined around roles and privileges. The components of RBAC such as role-permissions, user-role and role-role relationships make it simple to perform user assignments. RBAC can be used to facilitate administration of security in large organizations with hundreds of users and thousands of permissions. Roles for staff are defined in organization and access to the system can be given according to the role assigned. E.g. a junior accountant in accounting department is assigned a role of recording basic accounting transactions, an executive in human resource department is assigned a role of gathering data for salary calculations on monthly basis, etc.

(3 MARKS)

ANSWER-B

Money Laundering is the process by which the proceeds of the crime and the true ownership of those proceeds are concealed or made opaque so that the proceeds appear to come from a legitimate source. The objective in money laundering is to conceal the existence, illegal source, or illegal application of income to make it appear legitimate. Money laundering is commonly used by criminals to make "dirty" money appear "clean" or the profits of criminal activities are made to appear legitimate. **(2 MARKS)**

ANSWER-2

ANSWER-A

Validation Controls: Input validation controls are intended to detect errors in the transaction data before the data are processed. There are three levels of input validation controls:

- **Field Interrogation:** It involves programmed procedures that examine the characters of the data in the field. The following are some common types of field interrogation. Various field checks used to ensure data integrity have been

described below:

- **Limit Check:** This is a basic test for data processing accuracy and may be applied to both the input and output data. The field is checked by the program against predefined limits to ensure that no input/output error has occurred or at least no input error exceeding certain pre-established limits has occurred.
- **Picture Checks:** These checks against entry into processing of incorrect/invalid characters.
- **Valid Code Checks:** Checks are made against predetermined transactions codes, tables or order data to ensure that input data are valid. The predetermined codes or tables may either be embedded in the programs or stored in (direct access) files.
- **Check Digit:** One method for detecting data coding errors is a check digit. A check digit is a control digit (or digits) added to the code when it is originally assigned that allows the integrity of the code to be established during subsequent processing. The check digit can be located anywhere in the code, as a prefix, a suffix, or embedded someplace in the middle.
- **Arithmetic Checks:** Simple Arithmetic is performed in different ways to validate the result of other computations of the values of selected data fields.
- **Cross Checks:** may be employed to verify fields appearing in different files to see that the result tally.

- **Record Interrogation:** These are discussed as follows:
  - **Reasonableness Check:** Whether the value specified in a field is reasonable for that particular field?
  - **Valid Sign:** The contents of one field may determine which sign is valid for a numeric field.
  - **Sequence Check:** If physical records follow a required order matching with logical records.
- **File Interrogation:** These are discussed as follows:
  - **Version Usage:** Proper version of a file should be used for processing the data correctly.
    In this regard, it should be ensured that only the most current file be processed.
  - **Internal and External Labeling:** Labeling of storage media is important to ensure that the proper files are loaded for process. Where there is a manual process for loading files, external labeling is important to ensure that the correct file is being processed. Where there is an automated tape loader system, internal labeling is more important.
  - **Data File Security:** Unauthorized access to data file should be prevented, to ensure its confidentiality, integrity and availability. These controls ensure that the correct file is used for processing.
  - **Before and after Image and Logging:** The application may provide for reporting of before and after images of transactions. These images combined with the logging of events enable re-constructing the data file back to its last state of integrity, after which the application can ensure that the incremental transactions/events are rolled back or forward.

- **File Updating and Maintenance Authorization:** Sufficient controls should exist for file updating and maintenance to ensure that stored data are protected. The access restrictions may either be part of the application program or of the overall system access restrictions.
- **Parity Check:** When programs or data are transmitted, additional controls are needed.
  Transmission errors are controlled primarily by detecting errors or correcting codes.

ANSWER-B

(6 Marks)

ERM provides enhanced capability to do the following:

- **Align risk appetite and strategy:** Risk appetite is the degree of risk, on a broad-based level that an enterprise (any type of entity) is willing to accept in pursuit of its goals. Management considers the entity's risk appetite first in evaluating strategic alternatives, then in setting objectives aligned with the selected strategy and in developing mechanisms to manage the related risks.
- **Link growth, risk and return:** Entities accept risk as part of value creation and preservation, and they expect return commensurate with the risk. ERM provides an enhanced ability to identify and assess risks, and establish acceptable levels of risk relative to growth and return objectives.
- **Enhance risk response decisions:** ERM provides the rigor to identify and select among alternative risk responses – risk avoidance, reduction, sharing and acceptance. ERM provides methodologies and techniques for making these decisions.
- **Minimize operational surprises and losses:** Entities have enhanced capability to identify potential events, assess risk and establish responses, thereby reducing the occurrence of surprises and related costs or losses.
- **Identify and manage cross-enterprise risks:** Every entity faces a myriad of risks affecting different parts of the enterprise. Management needs to not only manage individual risks, but also understand interrelated impacts.
- **Provide integrated responses to multiple risks:** Business processes carry many inherent risks, and ERM enables integrated solutions for managing the risks.
- **Seize opportunities:** Management considers potential events, rather than just risks, and by considering a full range of events, management gains an understanding of how certain events represent opportunities.
- **Rationalize capital:** More robust information on an entity's total risk allows management to more effectively assess overall capital needs and improve capital allocation.

(4 Marks)

ANSWER-3

ANSWER-A

Limitations of Mobile Computing are as follows:

- **Insufficient Bandwidth:** Mobile Internet access is generally slower than direct cable connections using technologies such as General Packet Radio Service (GPRS) and Enhanced Data for GSM (Global System for Mobile Communication), 3G and more recently 4G networks. These networks are usually available within range of commercial cell phone towers. Higher speed wireless LANs are inexpensive but have very limited

range.

- **Security Standards:** When working mobile, one is dependent on public networks, requiring careful use of Virtual Private Network (VPN). Security is a major concern while concerning the mobile computing standards on the fleet. One can easily attack the VPN through a huge number of networks interconnected through the line.
- **Power consumption:** When a power outlet or portable generator is not available, mobile computers must rely entirely on battery power. Combined with the compact size of many mobile devices, this often means unusually expensive batteries must be used to obtain the necessary battery life. Mobile computing should also consider Greener IT in such a way that it saves the power or increases the battery life.
- **Transmission interferences:** Weather, terrain, and the range from the nearest signal point can all interfere with signal reception. Reception in tunnels, some buildings, and rural areas is often poor.
- **Potential health hazards:** People who use mobile devices while driving are often distracted from driving are thus assumed more likely to be involved in traffic accidents. Cell phones may interfere with sensitive medical devices. There are allegations that cell phone signals may cause health problems.
- **Human interface with device:** Screens and keyboards tend to be small, which may make them hard to use. Alternate input methods such as speech or handwriting recognition require training.

(6 Marks)

ANSWER-B

Operating System protection can be achieved using following steps.

- **Automated terminal identification:** This will help to ensure that a specified session could only be initiated from a certain location or computer terminal.
- **Terminal log-in procedures:** A log-in procedure is the first line of defence against unauthorized access as it does not provide unnecessary help or information, which could be misused by an intruder. When the user initiates the log-on process by entering user-id and password, the system compares the ID and password to a database of valid users and accordingly authorizes the log-in.
- **Access Token:** If the log on attempt is successful, the Operating System creates an access token that contains key information about the user including user-id, password, user group and privileges granted to the user. The information in the access token is used to approve all actions attempted by the user during the session.
- **Access Control List:** This list contains information that defines the access privileges for all valid users of the resource. When a user attempts to access a resource, the system compasses his or her user-id and privileges contained in the access token with those contained in the access control list. If there is a match, the user is granted access.
- **Discretionary Access Control:** The system administrator usually determines; who is granted access to specific resources and maintains the access control list. However, in distributed systems, resources may be controlled by the end-user. Resource owners in this setting may be granted discretionary access control, which allows them to grant access privileges to other users.
- **User identification and authentication:** The users must be identified and authenticated in a fool-proof manner. Depending on risk assessment, more stringent methods like Biometric Authentication or Cryptographic means like Digital Certificates should be employed.

- **Password management system:** An operating system could enforce selection of good passwords. Internal storage of password should use one-way hashing algorithms and the password file should not be accessible to users.
- **Use of system utilities:** System utilities are the programs that help to manage critical functions of the operating system e.g. addition or deletion of users. This utility should not be accessible to a general user. Use and access to these utilities should be strictly controlled and logged.
- **Duress alarm to safeguard users:** If users are forced to execute some instruction under threat, the system should provide a means to alert the authorities.
- **Terminal time out:** Log out the user if the terminal is inactive for a defined period. This will prevent misuse in absence of the legitimate user.
- **Limitation of connection time:** Define the available time slot. Do not allow any transaction beyond this time.

(4 Marks)

ANSWER-4
ANSWER-A

Business Reporting is defined as the public reporting of operating and financial data by a business enterprise, or the regular provision of information to decision-makers within an organization to support them in their work. This reporting process involves querying data sources with different logical models to produce a human readable report - for example, a computer user must query the Human Resources databases and the Capital Improvements databases to show how efficiently space is being used across an entire corporation.

Through reporting, organizations communicate with their stakeholders about:

- mission, vision, objectives, and strategy;
- governance arrangements and risk management;
- trade-offs between the shorter- and longer-term strategies; and
- financial, social, and environmental performance (how they have fared against their objectives inpractice).

The need of Business Reporting is for following reasons:

- Effective and transparent business reporting allows organizations to present a cohesive explanation of their business and helps them engage with internal and external stakeholders, including customers, employees, shareholders, creditors, and regulators.
- High-quality business reporting is at the heart of strong and sustainable organizations, financial markets, and economies, as this information is crucial for stakeholders to assess organizational performance and make informed decisions with respect to an organization's capacity to create and preserve value.
- Many organizations are increasingly complex, and have larger economic, environmental, and social footprints. Thus, various stakeholder groups require ESG (Environmental, Social and Governance) information, as well as greater insight into how these factors affect financial performance andvaluations.
- High-quality reports also promote better internal decision-making. High-quality information is integral to the successful management of the business, and is one of the major drivers of sustainable organizational success.

(6 Marks)

ANSWER -B

Internal Control System: Internal Control System means all the policies and procedures adopted by the management of an entity to assist in achieving management's objective of ensuring, as far as practicable, the orderly and efficient conduct of its business, including adherence to management policies, the safeguarding of assets, the prevention and detection of fraud and error, the accuracy and completeness of the accounting records, and the timely preparation of reliable financial information. An Internal Control System:

- facilitates the effectiveness and efficiency of operations.
- helps ensure the reliability of internal and external financial reporting.
- assists compliance with applicable laws and regulations.
- helps safeguarding the assets of the entity.

Limitations of Internal Control System are as follows:

- The fact that most internal controls do not tend to be directed at transactions of unusual nature. The potential for human error, such as, due to carelessness, distraction, mistakes of judgement and misunderstanding of instructions.
- The possibility of circumvention of internal controls through collusion with employees or with parties outside the entity.
- The possibility that a person responsible for exercising an internal control could abuse that responsibility, for example, a member of management overriding an internal control.
- Manipulations by management with respect to transactions or estimates and judgements required in the preparation of financial statements.

(4 Marks)

ANSWER-5

ANSWER-A

Definition of E-commerce are as follows:

E-Commerce can be defined as "Sale/Purchase of goods/services through electronic mode." This could include the use of technology in the form of Computers, Desktops, Mobile Applications, etc. In other words, E-Commerce is the process of doing business electronically. It refers to the use of technology to enhance the processing of commercial transactions between a company, its customers and its business partners. It involves the automation of a variety of Business-To-Business (B2B) and Business-To-Consumer (B2C) transactions through reliable and secure connections.

E-Commerce business can be protected from intrusion using following methods:

i. **Viruses:** Check your website daily for viruses, the presence of which can result in the loss of valuable data.

ii. **Hackers:** Use software packages to carry out regular assessments of how vulnerable your website is to hackers.

iii. **Passwords:** Ensure employees change these regularly and that passwords set by former employees of your organization are defunct.

iv. **Regular software updates:** The site should always be up to date with the newest versions of security software. If it is not done, the website will become vulnerable to attack.

v. **Sensitive data:** This involves considering the encryption of financial information and other confidential data (using encryption software). Hackers or third parties will not be able to access encrypted data without a key. This is particularly relevant for any e-Commerce sites that use a shopping cart system.

vi. Know the details of your payment service provider contract.

(5 MARKS)

ANSWER-B

The Risks associated with various aspect of Enterprise Resource Planning (ERP) are given below:

1. **Data Access:** Data is stored centrally, and all the departments access the central data. This creates a possibility of access to non-relevant data.
2. **Data Safety:** As there is only one set of data, if this data is lost, whole business may come to stand still. For the physical safety of data, risk of total or partial loss of data are considered. Whereas for the electronic safety of data; risk of changes in data, risk of partial/complete deletion of data, risk of leakage of information and risk of incorrect input of data are considered.
3. **Speed of Operation:** As data is maintained centrally, gradually the data size becomes more and more and it may reduce the speed of operation.
4. **Change in process:** As the overall system is integrated, a small change in process for one department may require lot of efforts and money.
5. **Staff Turnover:** As the overall system is integrated and connected with each other department, it becomes complicated and difficult to understand. In case of staff turnover, it becomes increasingly difficult to maintain the system.
6. **System Failure:** As everybody is connected to a single system and central database, in case of failure of system, the whole business may come to stand still and may get affected badly.

(5 Marks)

SECTION -B

ANSWER-1 **(15*1 = 15 MARKS)**

1. **C**
2. **A**
3. **B**
4. **C**
5. **C**
6. **D**
7. **B**
8. **B**
9. **D**
10. **D**
11. **B**
12. **A**

13. A
14. B
15. D

ANSWER-2

The intensity of rivalry in an industry is a significant determinant of industry attractiveness and profitability. The intensity of rivalry can influence the costs of suppliers, distribution, and of attracting customers and thus directly affect the profitability. The more intensive the rivalry, the less attractive is the industry. Rivalry among competitors tends to be cutthroat and industry profitability low when

(i) An industry has no clear leader.

(ii) Competitors in the industry are numerous.

(iii) Competitors operate with high fixed costs.

(iv) Competitors face high exit barriers.

(v) Competitors have little opportunity to differentiate their offerings.

(vi) The industry faces slow or diminished growth.

(5 Marks)

ANSWER-3

ANSWER-A

In most situations, strategy-execution process includes the following principal aspects:

- Developing budgets that steer ample resources into those activities critical to strategic success.
- Staffing the organization with the needed skills and expertise, consciously building and strengthening strategy-supportive competencies and competitive capabilities, and organizing the work effort.
- Ensuring that policies and operating procedures facilitate rather than impede effective execution.
- Using the best-known practices to perform core business activities and pushing for continuous improvement.
- Installing information and operating systems that enable company personnel to better carry out their strategic roles day in and day out.
- Motivating people to pursue the target objectives energetically.
- Creating a company culture and work climate conducive to successful strategy implementation and execution.
- Exerting the internal leadership needed to drive implementation forward and keep improving strategy execution. When the organization encounters stumbling blocks or weaknesses, management has to see that they are addressed and rectified quickly.

Good strategy execution involves creating strong "fits" between strategy and organizational capabilities, between strategy and the reward structure, between strategy and internal operating systems, and between strategy and the organization's work climate and culture.

(5 Marks)

ANSWER -B

Shree can opt for turnaround strategy which is a highly-targeted effort to return the company to profitability and increase positive cash flows to a sufficient level. Organizations those have faced a significant crisis that has negatively affected operations require turnaround strategy. Once turnaround is successful the organization may turn to focus on growth.

Conditions for turnaround strategies

When firms are losing their grips over market, profits due to several internal and external factors, and if they have to survive under the competitive environment they have to identify danger signals as early as possible and undertake rectification steps immediately. These conditions may be, inter alia cash flow problems, lower profit margins, high employee turnover and decline in market share, capacity underutilization, low morale of employees, recessionary conditions, mismanagement, raw material supply problems and so on.

Action plan for turnaround strategy

- Stage One – Assessment of current problems
- Stage Two – Analyze the situation and develop a strategic plan
- Stage Three – Implementing an emergency action plan
- Stage Four – Restructuring the business
- Stage Five – Returning to normal

(5 Marks)

ANSWER-4

ANSWER-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.

(5 Marks)

ANSWER-B

The higher-level corporate strategies need to be segregated into viable plans and policies that are compatible with each other and communicated down the line. The higher-level strategies need to be broken into functional strategies for implementation. These functional strategies, in form of marketing, finance, human resource, production, research and development help in achieving the organisational objective. The reasons why functional strategies are needed can be enumerated as follows:

- Functional strategies lay down clearly what is to be done at the functional level. They provide a sense of direction to the functional staff.
- They are aimed at facilitating the implementation of corporate strategies and the business strategies formulation at the business level.
- They act as basis for controlling activities in the different functional areas of business.
- They help in bringing harmony and coordination as they are formulated to achieve major strategies.
- Similar situations occurring in different functional areas are handled in a consistent manner by the functional managers.

(5 Marks)

ANSWER-5

ANSWER-A

Industry is "*a group of firms whose products have same and similar attributes such that they compete for the same buyers."* Industries differ significantly in their basic character and structure. Industry and competitive analysis begins with an overview of the industry's dominant economic features. The factors to be considered while profiling an industry's economic features are fairly standard and are given as under:

- Size and nature of market.
- Scope of competitive rivalry.
- Market growth rate and position in the business life.
- Number of rivals and their relative market share.
- The number of buyers and their relative sizes.
- The types of distribution channels used to access consumers.
- The pace of technological change in both production process innovation and new product introductions.
- Whether the products and services of rival firms are highly differentiated, weakly differentiated, or essentially identical?
- Whether organisation can realize economies of scale in purchasing, manufacturing, transportation, marketing, or advertising.
- Whether key industry participants are clustered in a location.
- Whether certain industry activities are characterized by strong learning and experience effects ("learning by doing") such that unit costs decline as cumulative output grows.
- Whether high rates of capacity utilization are crucial to achieve low-cost production efficiency.

- Capital requirements and the ease of entry and exit.
- Whether industry profitability is above or below par?

(5 Marks)

ANSWER-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 organizations to be proactive instead of reactive in shaping its future.
- It provides framework for all major decisions of an enterprise such as decisions on businesses, products, markets, manufacturing facilities, investments and organizational 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.

(5 Marks)

ANSWER-6

ANSWER-A

Multidivisional (M-form) 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. By such delegation, the corporate office is responsible for formulating and implementing overall corporate strategy and manages divisions through strategic and financial controls.

Multidivisional or M-form structure was developed in the 1920s, in response to coordination- and control-related problems in large firms. Functional departments often had difficulty dealing with distinct product lines and markets, especially in coordinating conflicting priorities among the products.

Costs were not allocated to individual products, so it was not possible to assess an individual product's profit contribution. Loss of control meant that optimal allocation of firm resources between products was difficult (if not impossible). Top managers became over - involved in solving short-run problems (such as coordination, communications, conflict resolution) and neglected long-term strategic issues. Multidivisional structure calls for:

- Creating separate divisions, each representing a distinct business.
- Each division would house its functional hierarchy.
- Division managers would be given responsibility for managing day-to-day operations.

A small corporate office that would determine the long-term strategic direction of the firm and exercise overall financial control over the semi-autonomous divisions.

(5 Marks)

ANSWER-B

Successful strategy implementation often requires additional capital. Besides net profit from operations and the sale of assets, two basic sources of capital for an organization are debt and equity. Being a financial manager to determine an appropriate mix of debt and equity in a firm's capital structure can be vital to successful strategy implementation. Fixed debt obligations generally must be met, regardless of circumstances. This does not mean that stock issuances are always better than debt for raising capital. If ordinary stock is issued to finance strategy implementation; ownership and control of the enterprise are diluted. This can be a serious concern in today's business environment of hostile takeovers, mergers, and acquisitions.

The major factors regarding which strategies have to be made by a financial manager are: capital structure; procurement of capital and working capital borrowings; reserves and surplus as sources of funds; and relationship with lenders, banks and financial institutions. Strategies related to the sources of funds are important since they determine how financial resources will be made available for the implementation of strategies. Organizations have a range of alternatives regarding the sources of funds. While one company may rely on external borrowings, another may follow a policy of internal financing.

(5 Marks)