

PAPER – 7: ENTERPRISE INFORMATION SYSTEMS AND STRATEGIC MANAGEMENT

SECTION – A: ENTERPRISE INFORMATION SYSTEMS

QUESTIONS

Multiple Choice Questions

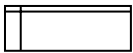
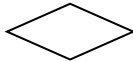


The Printage Ltd. is the printing press that deals with printing of the notepads and calendars and supplying it to various vendors, schools, and offices. With an aim of expansion of their business and to enter into the competitive market with variety of high-designed products, they purchased several state-of-art printing equipment in the year 2019 costing approximately ₹ 5 lakhs. The distinguishing feature of these printing equipment, if used optimally, enables the users to prepare any customized designs as per customers' choice on various daily use products like Mugs, T-shirts, and pillows etc. However, due to lack of proper training, the employees in the factory of the company were not able to operate the equipment properly thereby causing the delay in supply of the products against the orders placed by the customers. Few instances were registered where customers returned the products due to defects in designing and misprinting and also due to delay in the delivery of their ordered products.

The company being aware about enormous benefits of E-Commerce environment has its own online platform where the customers can place their orders. To place the orders for their customized products, the new customers are required to fill an online registration form that captures the payment related information like Account details or Credit Card details etc. and upload the design and photograph of their choice at the time of placing the order.

Though Printage Ltd. has made huge Capital investment in the new equipment, however there was a regular fall in sales and market share due to unsatisfied customers. On Management's request, an expert Mr. Amit was assigned to assess the reasons for steady fall in sales, market share and furthermore to suggest the improvements for overall business processes to increase the productivity and quality of the end-products. He prepared a pictorial representation of operations and processing of these equipment to understand their working. After completion of his assignment, he suggested the following:

- To enhance the output and reduce the costs and generate a positive Return on Investment (RoI), he suggested the management to begin regular periodic training sessions for its employees to operate and handle the equipment efficiently and use them optimally.
- He recommended to have dedicated Inspection Officer(s) for regular review of products before packing and delivery of products to customer, against the present process of clearing the products by the Production In-charge itself for packing and delivery.

Based on the above case scenario, answer the Question No(s) 1 to 5.

1. In purview of case scenario, the new customers are required to fill an online form that captures the information of their credit cards for payment at the time of placing any order, whereas the details like Credit Card get prefilled in the form of already registered customers. From which category of data of Financial and Accounting systems, does the prefilled data for registered customers get fetched in the online form?
 - (a) Master data
 - (b) Non-Master data
 - (c) Accounting data
 - (d) Customer's data
2. Mr. Amit used flowchart for diagrammatic representation to describe various business processes and operations. Identify the flowchart symbol used by him to represent the internal storage.
 - (a) 
 - (b) 
 - (c) 
 - (d) 
3. In purview of above case scenario, the customers may pay for his/her order using Credit Card. The following are the controls applied by Credit Card Issuing Authority except one. Choose the odd statement regarding Credit Cards.
 - (a) Batch processing of the reconciliations for the balances received from the credit card network with the transactions updated in the credit card system or card network level.
 - (b) Interest on fund-based credit cards is automatically calculated in credit card system.
 - (c) Access rights to authorize credit limit should be restricted to authorized personnel.
 - (d) No transaction can happen if the aggregate limit of outstanding amount exceeds the assigned credit limit.
4. The Printage Ltd. has its own online platform to promote and avail the benefits of e-Commerce transactions. However, many risks are also associated with online business. Which of the following does not fall under the category of risk of online business?
 - (a) Denial of Service

- (b) Problem of piracy
 - (c) Repudiation of Contract
 - (d) Elimination of time delays
5. In purview of above case scenario, a control is well implemented in the payment gateway of Prinatge Ltd. that checks for the authorized limit of the Credit Card of any customer when s/he places any online order. Identify the control from the following that has been executed in this case.
- (a) Detective Control
 - (b) Preventive Control
 - (c) Corrective Control
 - (d) Environmental Control

Descriptive Questions

Chapter 1: Automated Business Process

6. Mr. Rajesh and his team have been given the task to develop Internal controls policies and procedures for ABC Ltd. to safeguard the company's assets and to ensure the reliability of internal and external financial reporting. Elaborate the components of Internal Control System that Mr. Rajesh and his team must take care to make the system effective.
7. Information Technology has touched every sector of business and has been instrumental in accelerating their growth. However, many crimes are also associated with computers henceforth Information Technology Act, 2000 came into existence. Explain few computer-related offences prescribed in IT Act, 2000.

Chapter 2: Financial and Accounting Systems

8. Unlike non-integrated systems in an organization, where all the departments work independent to each other and use their own set of data; ERP systems use single database and contains data for various software modules. This distinct feature of ERP Systems enables them to provide enormous benefits to an organization. Discuss these benefits.
9. XBRL (eXtensible Business Reporting Language) is a freely available and global standard for digital business reporting. Discuss key features of XBRL that makes it an international standard way to communicate and exchange of business information.

Chapter 3: Information Systems and its Components

10. Information System's Control affects the working environment of an organization and are classified based on various factors like the objective of controls, the physical and logical security of resources etc. Describe the category of IS controls based on their objectives with examples.

11. In an organization, the Database Controls are used within an application software to maintain the integrity of data and prevent any data integrity violations. Discuss various controls under Database Controls to achieve this objective.

Chapter 4: E-Commerce, M-Commerce and Emerging Technologies

12. The businesses with the vision to anticipate change generally grab the trend before their competitors does and certainly opt for online mode for their businesses, therefore e-commerce is a happening trend in businesses nowadays. Briefly explain the forces underpinning the revolution of e-commerce.
13. Ms. Swati has been directed by her Reporting officer to prepare a short report on Blockchain technology and several risks associated with it. Elaborate in brief the factors that would form part of her report.

Chapter 5: Core Banking Systems

14. In Core Banking Systems, Information security has become critical to mitigate the risks associated with Information Technology. Elaborate the sub-processes that comprise Information security in this case.
15. BNC Financial is a well renowned Mortgage Broker company that is engaged in providing mortgage loans to potential businessmen for expansion/establishing their businesses. Write down various risks and their associated controls around the Mortgage Process.

SUGGESTED ANSWERS

Multiple Choice Questions

1. (a) Master data
2. (a)
3. (a) Batch processing of the reconciliations for the balances received from the credit card network with the transactions updated in the credit card system or card network level.
4. (d) Elimination of time delays
5. (a) Detective Control

Descriptive Questions

6. The components of Internal Control System are as follows:
- (i) **Control Environment:** It is the set of standards, processes, and structures that provide the basis for carrying out internal control across the organization. The Board of Directors and Senior Management establish the tone at the top regarding the importance of internal control, including expected standards of conduct. Management reinforces expectations at the various levels of the organization. The

control environment comprises the integrity and ethical values of the organization; the parameters enabling the board of directors to carry out its governance responsibilities; the organizational structure and assignment of authority and responsibility; the process for attracting, developing, and retaining competent individuals; and the rigor around performance measures, incentives, and rewards to drive accountability for performance. The resulting control environment has a pervasive impact on the overall system of internal control.

- (ii) **Risk Assessment:** Every entity faces a variety of risks from external and internal resources. Risk may be defined as the possibility that an event will occur and adversely affect the achievement of objectives. Risk Assessment involves a dynamic and iterative process for identifying and assessing risks to the achievement of objectives. Risks to the achievement of these objectives from across the entity are considered relative to established risk tolerances. Thus, Risk Assessment forms the basis for determining how risks will be managed. A precondition to risk assessment is the establishment of objectives linked at different levels of the entity. Management specifies objectives within categories of operations, reporting, and compliance with sufficient clarity to be able to identify and assess risks to those objectives. Because economic, industry, regulatory and operating conditions will continue to change; risk assessment also requires management to consider the impact of possible changes in the external environment and within its own business model that may render internal control ineffective. Risk Assessment includes the Identification of threats and vulnerabilities in the system; and Potential impact or magnitude of harm that a loss of CIA would have on enterprise operations or enterprise assets, should an identified vulnerability be exploited by a threat.
- (iii) **Control Activities:** These are the actions established through policies and procedures that help ensure that management's directives to mitigate risks to the achievement of objectives are carried out. Control activities are performed at all levels of the entity, at various stages within business processes, and over the technology environment. They may be preventive or detective in nature and may encompass a range of manual and automated activities such as authorizations and approvals, verifications, reconciliations and business performance reviews.

Broadly, the control activities include the elements that operate to ensure transactions are authorized, duties are segregated, adequate documents and records are maintained, assets and records are safeguarded, and independent checks on performance and valuation of records. Internal auditors are also concerned with administrative controls to achieve effectiveness and efficiency objectives. Control activities must be developed to manage, mitigate, and reduce the risks associated with each business process. It is unrealistic to expect to eliminate risks completely.

- (iv) **Information and Communication:** Information is necessary for the entity to carry out internal control responsibilities in support of the achievement of its objectives. Management obtains or generates and uses relevant and quality information from both internal and external sources to support the functioning of other components of internal control. Pertinent information must be identified, captured, and communicated in a form and time frame that enable people to carry out their responsibilities.

Communication is the continual, iterative process of providing, sharing, and obtaining necessary information. Internal communication is how information is disseminated throughout the enterprise, flowing up, down, and across the entity. It enables personnel to receive a clear message from senior management that control responsibilities should be taken seriously. External communication is two-fold: it enables inbound communication of relevant external information and provides information to external parties in response to requirements and expectations.

- (v) **Monitoring of Controls:** It is an ongoing cyclical process. Ongoing evaluations, separate evaluations, or some combination of the two are used to ascertain whether each of the five components of internal control including controls to affect the principles within each component is present and functioning. Ongoing evaluations built into business processes at different levels of the entity, provide timely information. Separate evaluations conducted periodically will vary in scope and frequency depending on assessment of risks, effectiveness of ongoing evaluations, and other management considerations. Findings are evaluated against management's criteria and deficiencies are communicated to management and the Board of Directors as appropriate.

7. Some computer related scenarios which can attract prosecution as per the penalties and offences prescribed in Information Technology Act, 2000 are as follows:

- ◆ **Harassment via fake public profile on social networking site:** A fake profile of a person is created on a social networking site with the correct address, residential information or contact details but he/she is labelled as 'prostitute' or a person of 'loose character'. This leads to harassment of the victim.
- ◆ **Email Account Hacking:** If victim's email account is hacked and obscene emails are sent to people in victim's address book.
- ◆ **Credit Card Fraud:** Unsuspecting victims would use infected computers to make online transactions.
- ◆ **Web Defacement:** The homepage of a website is replaced with a pornographic or defamatory page. Government sites generally face the wrath of hackers on symbolic days.

- ◆ **Introducing Viruses, Worms, Backdoors, Rootkits, Trojans, and Bugs:** All these are some sort of malicious programs which are used to destroy or gain access to some electronic information.
 - ◆ **Cyber Terrorism:** Cyber terrorism is the terrorism conducted in cyberspace, where the criminals attempt to damage or disrupt computer systems or telecommunication services. Examples are hacking into computer systems, introducing viruses to vulnerable networks, web site defacing, denial-of-service attacks, or terroristic threats made via electronic communication. Many terrorists use virtual (Drive, FTP sites) and physical storage media (USB's, hard drives) for hiding information and records of their illicit business.
 - ◆ **Online sale of illegal Articles:** Where sale of narcotics, drugs, weapons and wildlife is facilitated by the Internet.
 - ◆ **Cyber Pornography:** Among the largest businesses on Internet, pornography may not be illegal in many countries, but child pornography is.
 - ◆ **Phishing and Email Scams:** Phishing involves fraudulently acquiring sensitive information through masquerading oneself as a trusted entity (e.g. usernames, Passwords, credit card information).
 - ◆ **Theft of Confidential Information:** Many business organizations store their confidential information in computer systems. This information is targeted by rivals, criminals and disgruntled employees.
 - ◆ **Source Code Theft:** A Source code generally is the most coveted and important "crown jewel" asset of a company.
8. The benefits of Enterprise Resource Planning (ERP) systems to an organization are as follows:
- **Information integration:** The reason ERP systems are called integrated is because they possess the ability to automatically update data between related business functions and components. For example - one needs to only update the status of an order at one place in the order-processing system; and all the other components will automatically get updated.
 - **Reduction of Lead-time:** The elapsed time between placing an order and receiving it is known as the Lead-time. The ERP Systems by virtue of their integrated nature with many modules like Finance, Manufacturing, Material Management Module etc.; the use of the latest technologies like EFT (Electronic Fund Transfer), EDI (Electronic Data Interchange) reduce the lead times and make it possible for the organizations to have the items at the time they are required.
 - **On-time Shipment:** Since the different functions involved in the timely delivery of the finished goods to the customers- purchasing, material management production, production planning, plant maintenance, sales, and distribution are integrated and

the procedures automated; the chances of errors are minimal, and the production efficiency is high. Thus, by integrating the various business functions and automating the procedures and tasks the ERP system ensures on-time delivery of goods to the customers.

- **Reduction in Cycle Time:** Cycle time is the time between placement of the order and delivery of the product. In an ERP System; all the data, updated to the minute, is available in the centralized database and all the procedures are automated, almost all these activities are done without human intervention. This efficiency of the ERP systems helps in reducing the cycle time.
- **Improved Resource utilization:** The efficient functioning of the different modules in the ERP system like manufacturing, material management, plant maintenance, sales and distribution ensures that the inventory is kept to a minimum level, the machine down time is minimum and the goods are produced only as per the demand and the finished goods are delivered to the customer in the most efficient way. Thus, the ERP systems help the organization in drastically improving the capacity and resource utilization.
- **Better Customer Satisfaction:** Customer satisfaction means meeting or exceeding customers' requirement for a product or service. With the help of web-enabled ERP systems, customers can place the order, track the status of the order and make the payment sitting at home. Since all the details of the product and the customer are available to the person at the technical support department also, the company will be able to better support the customer.
- **Improved Supplier Performance:** ERP systems provide vendor management and procurement support tools designed to coordinate all aspect of the procurement process. They support the organization in its efforts to effectively negotiate, monitor and control procurement costs and schedules while assuring superior product quality. The supplier management and control processes are comprised of features that will help the organization in managing supplier relations, monitoring vendor activities and managing supplier quality.
- **Increased Flexibility:** ERP Systems help the companies to remain flexible by making the company information available across the departmental barriers and automating most of the processes and procedures, thus enabling the company to react quickly to the changing market conditions.
- **Reduced Quality Costs:** Quality is defined in many different ways- excellence, conformance to specifications, fitness for use, value for the price and so on. The ERP System's central database eliminates redundant specifications and ensures that a single change to standard procedures takes effect immediately throughout the organization. The ERP systems also provide tools for implementing total quality management programs within an organization.

- **Better Analysis and Planning Capabilities:** Another advantage provided by ERP Systems is the boost to the planning functions. By enabling the comprehensive and unified management of related business functions such as production, finance, inventory management etc. and their data; it becomes possible to utilize fully many types of Decision Support Systems (DSS) and simulation functions, what-if analysis and so on; thus, enabling the decision-makers to make better and informed decisions.
 - **Improved information accuracy and decision-making capability:** The three fundamental characteristics of information are accuracy, relevancy, and timeliness. The information needs to be accurate, relevant for the decision-maker and available to the decision-makers when he requires it. The strength of ERP Systems-integration and automation help in improving the information accuracy and help in better decision-making.
 - **Use of Latest Technology:** ERP packages are adapted to utilize the latest developments in Information Technology such as open systems, client/server technology, Cloud Computing, Mobile computing etc. It is this adaptation of ERP packages to the latest changes in IT that makes the flexible adaptation to changes in future development environments possible.
9. The key features of eXtensible Business Reporting Language (XBRL) that makes it an international standard way to communicate and exchange of business information are as follows:
- **Clear Definitions:** XBRL allows the creation of reusable, authoritative definitions, called taxonomies that capture the meaning contained in all the reporting terms used in a business report, as well as the relationships between all the terms. Taxonomies are developed by regulators, accounting standards setters, government agencies and other groups that need to clearly define information that needs to be reported upon. XBRL doesn't limit what kind of information is defined: it's a language that can be used and extended as needed.
 - **Testable Business Rules:** XBRL allows the creation of business rules that constrain what can be reported. Business rules can be logical or mathematical, or both and can be used, for example, these business rules can be used to:
 - stop poor quality information being sent to a regulator or third party, by being run by the preparer while the report is in draft.
 - stop poor quality information being accepted by a regulator or third party, by being run at the point that the information is being received. Business reports that fail critical rules can be bounced back to the preparer for review and resubmission.
 - flagging or highlighting questionable information, allowing prompt follow up, correction or explanation.

- create ratios, aggregations, and other kinds of value-added information, based on the fundamental data provided.
 - **Multi-lingual Support:** XBRL allows concept definitions to be prepared in as many languages as necessary. Translations of definitions can also be added by third parties. This means that it's possible to display a range of reports in a different language to the one that they were prepared in, without any additional work. The XBRL community makes extensive use of this capability as it can automatically open up reports to different communities.
 - **Strong Software Support:** XBRL is supported by a very wide range of software from vendors large and small, allowing a very wide range of stakeholders to work with the standard.
10. The classification of controls of Information System based on their objectives is as under:
- (i) **Preventive Controls:** These controls prevent errors, omissions, or security incidents from occurring. They are basically proactive in nature. Examples include simple data-entry edits that block alphabetic characters from being entered in numeric fields, access controls that protect sensitive data/ system resources from unauthorized people, and complex and dynamic technical controls such as anti-virus software, firewalls, and intrusion prevention systems. In other words, Preventive Controls are those inputs, which are designed to prevent an error, omission or malicious act occurring. Any control can be implemented in both manual and computerized environment for the same purpose. Only, the implementation methodology may differ from one environment to the other.
 - (ii) **Detective Controls:** These controls are designed to detect errors, omissions or malicious acts that occur and report the occurrence. Detective Controls detect errors or incidents that elude preventive controls. They are basically investigative in nature. For example, a detective control may identify account numbers of inactive accounts or accounts that have been flagged for monitoring of suspicious activities. Detective controls can also include monitoring and analysis to uncover activities or events that exceed authorized limits or violate known patterns in data that may indicate improper manipulation. For sensitive electronic communications, detective controls can indicate that a message has been corrupted or the sender's secure identification cannot be authenticated.
 - (iii) **Corrective Controls:** It is desirable to correct errors, omissions, or incidents once they have been detected. They are reactive in nature. They vary from simple correction of data-entry errors, to identifying and removing unauthorized users or software from systems or networks to recovery from incidents, disruptions, or disasters. Generally, it is most efficient to prevent errors or detect them as close as possible to their source to simplify correction. These corrective processes also should be subject to preventive and detective controls because they represent

another opportunity for errors, omissions, or falsification. Corrective controls are designed to reduce the impact or correct an error once it has been detected.

11. Various controls under Database Controls of an application software are as follows:
 - (a) **Access Controls:** These controls in database subsystem seek to prevent unauthorized access to and use of the data. A security policy has to be specified followed by choosing an access control mechanism that will enforce the policy chosen. If database is replicated, the same access control rules must be enforced by access control mechanism at each site.
 - (b) **Integrity Controls:** These are required to ensure that the accuracy, completeness, and uniqueness of instances used within the data or conceptual modeling are maintained. Integrity Constraints are established to specify the type of relationship and consistency among rows (tuple) in relationship.
 - (c) **Application Software Controls:** When application software acts as an interface to interact between the user and the database, the DBMS depends on application software to pass across a correct sequence of commands and update parameters so that appropriate actions can be taken when certain types of exception condition arise. This is achieved through Update Controls that ensure that changes to the database reflect changes to the real-world entities and associations between entities that data in the database is supposed to represent and Report Controls that identify errors or irregularities that may have occurred when the database has been updated.
 - (d) **Concurrency Controls:** These are required to address the situation that arises either due to simultaneous access to the same database or due to deadlock.
 - (e) **Cryptographic Controls:** These controls can be well used for protecting the integrity of data stored in the database using block encryption.
 - (f) **File Handling Controls:** These controls are used to prevent accidental destruction of data contained on a storage medium. These are exercised by hardware, software, and the operators or users who load/unload storage media.
 - (g) **Audit Trail Controls:** The audit trail maintains the chronology of events that occur either to the database definition or the database itself.
12. The forces underpinning the revolution of e-Commerce are as follows:
 - **Proliferation of Mobile Device:** The user is moving from desktop to mobile computing. 55% of the online traffic is generated from mobile devices and still it is on the increase. The most spectacular growth in mobile phone ownership contributes to the growth of e-commerce through mobile app. The creation of mobile application for e-commerce site is the latest trend to drive many online shoppers who use mobile apps for online shopping. The latest trend is using videos for product to attract customers. Shoppable videos for customers instead of using images and content would enable them to shop for products and services directly

from videos. The product content and recommendation increase the sales conversion through competitive analysis and identifying the basic style, studying, and using trending keywords and trying new trends.

- **Convergence of Mobile Telecommunication Network and the Internet:** The mobile internet is also about a very different user experience. It is characterized by goal-oriented activities reserving movie tickets or looking for directions. These activities are often conducted when time pressure, such as knowing that movie starts at 8 PM and are subject to distraction. The transition from 3G to 5G and faster data rate along with many new applications and services makes the success of e-commerce possible.
- **Social Network:** Social media these days is an integral part of almost every consumer's online habits. The latest trend is the inclusion of e-commerce in social networks, such as Facebook, Twitter, YouTube, etc. This allows the consumer to buy the product without even leaving the social media platform. The concept of commerce using social media tool box will help the e-marketer to become more familiar with their clients and at the same time will also enable the customers to develop deep relationships with the merchants they buy from. Promotion of products on social media platforms is another trend.
- **Artificial Intelligence (AI):** Another trend in e-commerce is the use of Chatbot, a fully automated chat agent that will answer all the questions of consumers and act as a first point of contact. Chatbots commonly known as messenger bots is a piece of software that can be used by a retailer to chat with customers via text or voice. Well-designed chatbots can offer personalized assistances, enhance the user experience, process orders, track shipments, provide product suggestion, automates processes, and lot more. A chatbot can offer guided, interactive browsing to the consumers and provide personalized answers to customers' questions at all times.
- **Predictive Analysis:** The use of predictive analysis tools is increasing to predict the online customers' behaviour, their buying habits, their tastes, and preferences, both quantitative and qualitative. By segmenting the customers in different categories, the company can optimize its e-mail communication in order to increase conversions by offering the right customer; the right product; in the right way; and at the right time. The analytical approach would lead to an increase in the number of new customers, as well as tools can determine the probability of a customer purchasing certain products in certain situations. Based on this information, marketer can create unique, personalized promotions for each customer.
- **Support of IT governing Laws:** Various provisions of IT Act, 2000 and laws now govern E-commerce which has proven to be a game-changer for the Indian economy and the future of "Digital India". The availability of jurisprudence in India on the various issues related to e-commerce sector is in abundance. These laws

empower the e-businesses and lower the chances of any upsetting legal conflicts or lost business.

13. Blockchain sometimes referred to as Distributed Ledger Technology (DLT) is a shared, peer-to-peer, and decentralized open ledger of transactions system with no trusted third parties in between. This ledger database has every entry as permanent as it is an append-only database which cannot be changed or altered. All transactions are fully irreversible with any change in the transaction being recorded as new transaction. The decentralized network refers to the network which is not controlled by any bank, corporation, or government. A blockchain generally uses a chain of blocks, with each block representing the digital information stored in public database (“the chain”).

The risks associated with Blockchain are as follows:

- With the use of blockchain, organizations need to consider risks with a wider perspective as different members of a particular blockchain may have different risk appetite/risk tolerances that may further lead to conflict when monitoring controls are designed for a blockchain. There may be questions about who is responsible for managing risks if no one party is in-charge and how proper accountability is to be achieved in a blockchain.
 - The reliability of financial transactions is dependent on the underlying technology and if this underlying consensus mechanism has been tampered with, it could render the financial information stored in the ledger to be inaccurate and unreliable.
 - In the absence of any central authority to administer and enforce protocol amendments, there could be a challenge in the establishment of development and maintenance of process control activities and in such case, users of public blockchains find difficult to obtain an understanding of the general IT controls implemented and the effectiveness of these controls.
 - As blockchain involves humongous data getting updated frequently, risk related to information overload could potentially challenge the level of monitoring required. Furthermore, to find competent people to design and perform effective monitoring controls may again prove to be difficult.
14. The sub-processes that comprise Information security to mitigate the risks associated with Information Technology are as follows:
- **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.
15. The risks and their associated controls around the Mortgage process are as follows:

Risks	Key Controls
Incorrect customer and loan details are captured which will affect the overall downstream process.	There is secondary review performed by an independent team member who will verify loan details captured in core banking application with offer letter.
Incorrect loan amount disbursed.	There is secondary review performed by an independent team member who will verify loan amount to be disbursed with the core banking application to the signed offer letter.
Interest amount is incorrectly calculated and charged.	Interest amount is auto calculated by the core banking application basis loan amount, Rol and tenure.
Unauthorized changes made to loan master data or customer data.	System enforced Segregation of Duties exist in the core banking application where the person putting in the transaction cannot approve its own transaction and reviewer cannot edit any details submitted by person putting data.

SECTION – B: STRATEGIC MANAGEMENT

Multiple Choice Questions

1. Since its inception in 1910, the family business of Indian ethnic wear firm Shanti Prasad & Sons, run by Mr. Mukesh Gupta and his three sons has seen major transformation in supply chain, product development and management. The inheritance over generations hasn't been easy, as it was subject to family brawls, but the company stood strong to its core principles.

Since 2011, major foreign brands have been eyeing the segment with world class designers opening up their boutiques in plush areas around the country. JMM, a French design house, recently branded its Indian wear with leading film personalities, to attract masses. This damaged existing supply chains, attracted new age buyers and has been profitable from the very beginning.

The three sons reach out to you for management consultancy, to help them meet the competition, if not beat it. You study the business inside out and come up with three options.

First, to exit Indian Market, and start exporting their designs to European markets. This would ensure bigger revenue and forex gains, and also the distribution chains were well built there.

Second, to become the major manufacturer of JMM and other big foreign brands. This would ensure they stay relevant in the market as all the promotional spend would be taken care of by JMM and the volumes they would rope in would actually mean growth for Shanti Prasad & Sons too.

Third, to sell their designs to the global brands with patent protection. This would ensure a perpetual flow of revenue and a new market altogether, with global business exposure.

The family after considering your proposals, knowing the intricacies of business, and its environment, decided to blend options two and three. The success or failure could only be gauged in three quarters, when they sit down for an internal post implementation review.

Based on the above Case Scenario, answer the Multiple Choice Questions.

- (i) What can be said about the attitude of the owners with regards to their strategy mindset when they reached out for consultancy?
- (a) Expansion Oriented
 - (b) Stability Oriented
 - (c) Retrenchment Oriented
 - (d) Combination Oriented

- (ii) If the owners went with option two, which of the following components of marketing strategy would be irrelevant for them?
 - (a) Product and Promotion
 - (b) Price and Product
 - (c) Promotion only
 - (d) Place only
 - (iii) Option three if opted, would help in sustainability of which of the following, and would ensure so because of what major characteristic of sustainability?
 - (a) Sustainability of Competitive Advantage by ensuring Transferability
 - (b) Sustainability of Value Creation by ensuring Appropriability
 - (c) Sustainability of Value Creation by restricting Imitability
 - (d) Sustainability of Competitive Advantage by ensuring Durability
 - (iv) For Shanti Prasad & Sons well as JJM, globalisation has been a key area of consideration. As times change, and new players enter a market, the existing firms need to be careful about their survival. Which of the following statements about Globalisation is false for JJM?
 - (a) It unifies the trade and such trade barriers become irrelevant
 - (b) It needs ability to compete in domestic market with foreign competitors
 - (c) It includes commitment to invest heavily in other countries
 - (d) It brings in foreign investment in the form of FDI
 - (v) For JMM, which of the following structures would be best suited, in case all major Indian family run businesses start producing designs for them, while JMM simply takes care of distribution and marketing?
 - (a) Simple Structure
 - (b) Network Structure
 - (c) Matrix Structure
 - (d) Divisional Structure
2. Nom-Nom is a fast-food brand and has been facing a lot of competition from American brands and has decided to NOT go very aggressive but to just preserve market share? Which of the strategy Nom-Nom is following?
- (a) Build
 - (b) Hold
 - (c) Harvest

- (d) Divest
3. A tea farm owners plan to open tea cafes in tourist spots and to sell their own premium tea to build a brand. Which of the following can this be termed as?
- (a) Backward Integration
 - (b) Forward Integration
 - (c) Diversification
 - (d) Horizontal Integration
4. Airlines providing special lounge access to loyal customers is a type of which marketing?
- (a) Augmented Marketing
 - (b) Direct Marketing
 - (c) Relationship Marketing
 - (d) Services Marketing
5. Maadhyan, a hearing aid manufacturer recently introduced an AI based management tool that has the capabilities of managing teams across functions. What could be their new organisational structure post this implementation?
- (a) Divisional Structure
 - (b) Matrix Structure
 - (c) Hourglass Structure
 - (d) Network Structure
6. Halder & Sons have invested in latest technology in terms of latest printing machines from Germany and Israel. But recent advent of internet has posed a big threat to their printing business as majority of their clients have now turned to more environment friendly options. They are not able to sell off their machines which are now redundant. What condition are they facing right now?
- (a) Improper market analysis
 - (b) Exit Barriers
 - (c) Paralysis of Strategic Vision
 - (d) Weak SWOT Analysis

Descriptive Questions

Chapter 1-Introduction to Strategic Management

7. ABC Ltd. currently sells its product in two major markets – Europe and Asia. While it is a market leader in Europe, ABC Ltd. has struggled to penetrate the more competitive Asian market. ABC Ltd. hired a strategic consultant to analyze the situation and submit his

report to them. After the report received from the strategic consultant, it has therefore decided to pull out of Asia entirely and focus on its European markets only. This decision relates to which level in ABC Ltd. and explain the role of managers at this level in the organization.

8. Discuss the challenges faced by public sector units while designing for their organisations.

Chapter 2-Dynamics of Competitive Strategy

9. Explain the strategic implications of each of the following types of business in a corporate portfolio:
(a) Stars (b) Question Marks (c) Cash Cows (d) Dogs
10. Explain the role of ADL Matrix in assessing competitive position of a firm.

Chapter 3-Strategic Management Process

11. Differentiation between Strategic Planning and Operational Planning.
12. What are 'objectives'? What characteristics it must possess to be meaningful?

Chapter 4-Corporate Level Strategies

13. *Racers Ltd.* manufactures bicycles. Until recently it has adopted a differentiation strategy, offering high quality bicycles which *Racers Ltd.* sells at a high profit margin.

In recent years, *Racers Ltd.* has entered a period of decline due to the market becoming flooded with cheaper, high quality bicycles from abroad, where labour costs are lower.

Racers Ltd. has therefore decided to adjust its strategy and adopt a focus approach, targeting its bicycles towards professional athletes. This will allow *Racers Ltd.* to continue earning high margins, though the size of its potential market will likely fall.

Identify and explain the need of adopting this strategy by *Racers Ltd.* to manage decline?
14. Diversification endeavours can be categorized into four broad classifications. State the basis for this classification and name the four categories. How is concentric diversification different from vertically diversification? Explain.

Chapter 5-Business Level Strategies

15. A business consultancy firm specializes in environment management consultancy. It advises client companies on how to set up environmental management accounting systems. For measuring recording and analyzing environmental costs. A large part of its business involves performing environmental audits to check whether companies have achieved an international assurance standard in environmental management; this is something that rival consultancy firms do not do. The firm also carries out other management consultancy projects for client, but these make up only a small proportion of its total annual fee income.

Identify the strategy categories by Michael Porter which best describes the strategy of this firm.

16. What are the five competitive forces in an industry as identified by Michael Porter?

Chapter 6-Functional Level Strategies

17. You are the Human Resource Manager of a Company. What are the prominent areas where you can play strategic role?
18. You are a manager of a firm, and you have to raise funds for a business project. From which sources can you raise the funds for your company?

Chapter 7-Organisation and Strategic Leadership

19. How the 'Strategic Business Unit (SBU), structure becomes imperative in an organization with increase in number, size and diversity of divisions?
20. "A network structure is suited to unstable environment." Elucidate this statement.

Chapter 8-Strategy Implementation and Control

21. *Glassware Ltd.* is about to go through a significant restructuring. The strategic change involves moving from a decentralized to a centralized structure. This will help *Glassware* avoid duplication of support activities and lower its costs.

The management have held the first staff briefing in which they went to great lengths to explain that the change was necessary to equip the company to face future competitive challenges. Identify and explain the current stage of *Glassware Ltd.* from the Lewin's three-stage model of change?

22. Explain the various categories in which generic business process of a firm requires redesigning.

SUGGESTED ANSWERS

1. (i) (b) (ii) (c) (iii) (d) (iv) (b) (v) (b)
2. (b)
3. (b)
4. (c)
5. (c)
6. (b)
7. Corporate level strategy relates to the markets and industries that the organization chooses to operate in, as well as other decisions that affect the organization as a whole. The role of corporate-level managers is to oversee the development of strategies for the whole organization. This role includes defining the mission and goals of the organization,

determining what businesses it should be in, allocating resources among the different businesses, formulating and implementing strategies that span individual businesses, and providing leadership for the organization.

8. Central, state, municipal agencies, Public Sector Units, departments are responsible for formulating, implementing, and evaluating strategies that use taxpayers' money in the most cost-effective way to provide services and programs. The Challenges faced by the public sector units while designing their organizations are on account of basic nature of such organizations.

Public sector units face the following challenges while designing strategies for their organizations:

- Operating with less strategic autonomy.
 - Cannot diversify into unrelated businesses or merge with other firms.
 - Strategists usually enjoy little freedom while altering the organization's mission or redirecting objectives when needed.
 - Legislators and politicians control over major decisions and resources.
 - Fear of media debate over the strategic issues.
 - Chances of politicization of issues resulting fewer strategic choice.
9. In the BCG growth-share matrix portfolio of investments are represented in two-dimensional space. The vertical axis represents market growth rate, and the horizontal axis represents relative market share. The strategic implications for various business types under BCG in the corporate portfolio are:

Stars are products or businesses that are growing rapidly and are best opportunity for expansion. *Stars may follow build strategy.* They need heavy investments to maintain their position and finance their rapid growth potential.

Cash Cows are low-growth, high market share businesses or products. They generate cash and have low costs. They are established, successful, and need less investment to maintain their market share. *Strategic alternative advocated for cash cows is harvest.*

Question Marks are low market share business in high-growth markets. *Strategic option for them is hold for which they need heavy investments.* Question marks if left unattended are capable of becoming cash traps.

Dogs are low-growth, low-share businesses and products. *Relevant strategy is divest.* Dogs may generate enough cash to maintain themselves, but do not have much future. Dogs should be minimized by means of divestment or liquidation.

10. The ADL matrix has derived its name from Arthur D. Little which is a portfolio analysis method based on product life cycle. The approach forms a two-dimensional matrix based on stage of industry maturity and the firm's competitive position, environmental

assessment and business strength assessment. The role of ADL matrix is to assess the competitive position of a firm based on an assessment of the following criteria:

- ◆ **Dominant:** This is a comparatively rare position and in many cases is attributable either to a monopoly or a strong h
- ◆ **Strong:** By virtue of this position, the firm has a considerable degree of freedom over its choice of strategies and is often able to act without its market position being unduly threatened by its competitors.
- ◆ **Favourable:** This position, which generally comes about when the industry is fragmented and no one competitor stand out clearly, results in the market leaders a reasonable degree of freedom.
- ◆ **Tenable:** Although the firms within this category are able to perform satisfactorily and can justify staying in the industry, they are generally vulnerable in the face of increased competition from stronger and more proactive companies in the market.
- ◆ **Weak:** The performance of firms in this category is generally unsatisfactory although the opportunities for improvement do exist.

11.

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.

12. Objectives are organizations performance targets – the results and outcomes it wants to achieve. They function as yardstick for tracking an organization’s performance and progress.

Objectives with strategic focus relate to outcomes that strengthen an organization's overall business position and competitive vitality. Objectives, to be meaningful to serve the intended role, must possess the following characteristics:

- ◆ Objectives should define the organization's relationship with its environment.
- ◆ Objectives should be facilitative towards achievement of mission and purpose.
- ◆ Objectives should provide the basis for strategic decision-making.
- ◆ Objectives should provide standards for performance appraisal.
- ◆ Objectives should be understandable.
- ◆ Objectives should be concrete and specific.
- ◆ Objectives should be related to a time frame.
- ◆ Objectives should be measurable and controllable.
- ◆ Objectives should be challenging.
- ◆ Different objectives should correlate with each other.
- ◆ Objectives should be set within constraints.

13. *Racers Ltd.* has adopted Turnaround strategy. This involves *Racers Ltd.* repositioning itself in the market in an attempt to once again gain competitive advantage.

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

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

14. Diversification strategy involves expansion into new businesses that are outside the current business and markets of an organisation. Based on the nature and extent of their relationship to existing businesses, diversification can be classified into four broad categories:

- (i) Vertically integrated diversification
- (ii) Horizontally integrated diversification
- (iii) Concentric diversification

(iv) Conglomerate diversification

Concentric diversification takes place when the products are related. The new product is a spin-off from the existing facilities and products/processes. This means that in concentric diversification too, there are benefits of synergy with the current operations. However, concentric diversification differs from vertically integrated diversification in the nature of the linkage the new product has with the existing ones.

In vertically integrated diversification, firms opt to engage in businesses that are related to the existing business of the firm. The firm remains vertically within the same process. Sequence moves forward or backward in the chain and enters specific product/process steps with the intention of making them into new businesses for the firm. The new product falls within the firm's current process-product chain. In concentric diversification, there is a departure from this vertical linkage, a new related product is added to the existing business. The new product is only connected in a loop-like manner at one or more points in the firm's existing process/technology/product chain.

15. By concentrating mainly on the 'market' for consultancy services in environmental management, the firm is pursuing a focus strategy. By offering audit services, which rival firms do not, this indicates a differentiation strategy within this chosen market niche. Hence, the firm is following Focus differentiation strategy.

A focused differentiation strategy requires offering unique features that fulfil the demands of a narrow market. Similar to focused low-cost strategy, narrow markets are defined in different ways in different settings. 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.

16. Five forces model of Michael Porter is a popular tool for systematically diagnosing the significant competitive pressures in the market and assessing their strength and importance. The model holds that the state of competition in an industry is a composite of competitive pressures operating in five forces as follows:
1. **Threat of new entrants:** New entrants place a limit on prices and affect the profitability of existing players. The new capacity and product range the new entrants bring increases competitive pressure.
 2. **Bargaining power of customers:** The bargaining power of the buyers influences not only the prices that the producer can charge but also influence costs and investments of the producer. This force will become heavier depending on the possibilities of the buyers forming groups or cartels, particularly in case of industrial products.
 3. **Bargaining power of suppliers:** Often suppliers can exercise considerable bargaining power. The bargaining power of suppliers determines the cost of raw

materials and other inputs of the industry and, therefore, can affect industry attractiveness and profitability.

4. **Rivalry among current players:** The impact is evident more at functional level in the prices being charged, advertising, and pressures on costs, product and so on.
 5. **Threats from substitutes:** Substitute products are a latent source of competition in an industry. Substitute products offering a price advantage and/or performance improvement to the consumer can have significant impact.
17. Prominent areas where the Human Resource Manager can play strategic role are as follows:
1. **Providing purposeful direction:** The human resource manager leads people and the organization towards the desired direction involving people. He can ensure harmony between organisational objectives and individual objectives.
 2. **Creating competitive atmosphere:** In the present business environment, maintaining competitive position or gains is an important objective of any business. Having a highly committed and competent workforce is very important for getting a competitively advantageous position.
 3. **Facilitation of change:** The human resource manager will be more concerned about furthering the organization not just maintaining it. He can devote more time to promote acceptance of change rather than maintaining the status quo.
 4. **Managing diversity of workforce:** In a modern organization, management of diverse workforce is a great challenge. Workforce diversity can be observed in terms of male and female, young and old, educated and uneducated, unskilled and professional employee and so on. Motivation, maintaining morale and commitment are some of the key tasks that a HR manager can perform.
 5. **Empowerment of human resources:** Empowerment involves giving more power to those who, at present, have little control on what they do and little ability to influence the decisions being made around them.
 6. **Building core competency:** The human resource manager has an important role to play in developing core competency of the firm. A core competence is a unique strength of an organization which may not be shared by others. Organization of business around core competence implies leveraging the limited resources of a firm.
 7. **Development of works ethics and culture:** A vibrant work culture will have to be developed in the organizations to create an atmosphere of trust among people and to encourage creative ideas by the people.
18. Strategies related to the source of fund are important since they determine how financial resources will be available for the implementation of the financial strategies. Companies may rely on internal and external sources of financing for their short term and long term

requirement of their funds. The funds may be raised from national and international money and capital markets.

Following are some important sources for raising funds:

- i. **Net profit from the operations:** Using retained earnings to reinvest in the business, either in new projects or to scale up existing operations.
 - ii. **Sale of assets:** The purpose of an asset sale is generally to increase cash flow, reduce bad debt risk and liquidation of assets.
 - iii. **Debt:** Debt is an amount of money borrowed by one party from another. It is used by many corporations as a method of making large purchases that they could not afford under normal circumstances. It could be applied to boost organizations return on investment. During low earning periods, too much debt in the capital structure of an organization can endanger stockholders' return and jeopardize company survival. Debt can be in the form of debentures, bonds, loans from financial institutions and deposits from public/fixed deposits.
 - iv. **Issuance of share capital to the public:** Equity can be of two type – ordinary Shares and preference shares.
19. SBU is a part of a large business organization that is treated separately for strategic management purposes. The concept of SBU is helpful in creating an SBU organizational structure. It is separate part of large business serving product markets with readily identifiable competitors. It is created by adding another level of management in a divisional structure after the divisions have been grouped under a divisional top management authority based on the common strategic interests.

Very large organisations, particularly those running into several products, or operating at distant geographical locations that are extremely diverse in terms of environmental factors, can be better managed by creating strategic business units. SBU structure becomes imperative in an organisation with increase in number, size and diversity. SBUs helps such organisations by:

- Establishing coordination between divisions having common strategic interest.
- Facilitate strategic management and control.
- Determine accountability at the level of distinct business units.
- Allow strategic planning to be done at the most relevant level within the total enterprise.
- Make the task of strategic review by top executives more objective and more effective.
- Help to allocate resources to areas with better opportunities.

20. Network structure is a newer and somewhat more radical organizational design. The network structure could be termed a "non-structure" as it virtually eliminates in-house business functions and outsource many of them. An organization organized in this manner is often called a virtual organization because it is composed of a series of project groups or collaborations linked by constantly changing non-hierarchical, cobweb-like networks.

The network structure becomes most useful when the environment of a firm is unstable and is expected to remain so. Under such conditions, there is usually a strong need for innovation and quick response. Instead of having salaried employees, it may contract with people for a specific project or length of time. Long-term contracts with suppliers and distributors replace services that the company could provide for itself through vertical integration. The network structure provides organization with increased flexibility and adaptability to cope with rapid technological change and shifting pattern of international trade and competition.

21. *Glassware Ltd.* is currently in the 'unfreezing' stage, where management is attempting to explain the need for change in an attempt to maximize buy-in by employees and reduce the amount of resistance.

Unfreezing the situation: The process of unfreezing simply makes the individuals aware of the necessity for change and prepares them for such a change. Lewin proposes that the changes should not come as a surprise to the members of the organization. Sudden and unannounced change would be socially destructive and morale lowering. The management must pave the way for the change by first "unfreezing the situation", so that members would be willing and ready to accept the change.

Unfreezing is the process of breaking down the old attitudes and behaviours, customs and traditions so that they start with a clean slate. This can be achieved by making announcements, holding meetings and promoting the new ideas throughout the organization.

22. The generic business processes of a firm that require redesign may be classified into **three broad categories** as follows:

- ◆ **Processes pertaining to development and delivery of product(s) and / or services** - These may include research, design, engineering, manufacturing, and logistics, besides purchasing / procurement and materials management.
- ◆ **Process involving interface(s) with customers** - These usually include marketing, advertising, order fulfilment, and service.
- ◆ **Process comprising management activities** - These include strategy formulation, planning and budgeting, performance measurement and reporting, human resource management, and building infrastructure.

In the context of these generic business processes, BPR may be viewed as a means of solving business problem through IT capabilities.