1. Which of the following wireless network encryption standards would you recommend for your organization? **Answer**: WPA (Wi-Fi Protected Access)

2. Which of the following malicious software replicates itself without human intervention? **Answer**: Worm

3. Which of the following diagrams would you use to model processes? **Answer**: DFD

4. Which of the following identity theft mechanisms exploits DNS records? **Answer**: Pharming

5. During which of the following software development activities is the software put into operation? **Answer**: Production and maintenance

6. Which of the following software conversion strategies would you adopt if you wanted to deploy the new software system at the head office first before deploying it at the rest of the branches one at a time? **Answer**: Pilot study

7. Full meaning of the mnemonic CASE. **Answer**: Computer-Aided Software Engineering

8. Which of the following software development process models would you employ when developing business applications with changing requirements? **Answer**: SCRUM

9. Which of the following best describes Management Information Systems (MIS)? Correct **Answer**: A system that provides information for decision-making in an organization

10. What is the primary goal of a Management Information System? **Answer**: To improve the efficiency of an organization's operations

11. Which of the following is an example of an operational-level decision supported by a Management Information System? **Answer**: Determining the optimal production schedule for a factory

12. Which of the following technologies is commonly used for data storage and retrieval in Management Information Systems? **Answer**: Cloud computing

13. What is the role of a Chief Information Officer (CIO) in relation to Management Information Systems? **Answer**: Overseeing the development and implementation of MIS within an organization

14. Which of the following is an example of a decision support system? **Answer**: Business intelligence (BI) dashboard

15. Which of the following is a potential risk associated with the implementation of a Management Information System? **Answer**: Data breaches and unauthorized access to sensitive information

16. Which of the following is an example of a transaction processing system? **Answer**: Online banking system

17. Which of the following best describes the 2nd Normal Form?

    Answer: The relation has no partial dependencies

26. What is the protocol stack of the internet? **Answer**: TCP/IP

27. Which of the following analytics focuses on describing why certain events occurred by analysing data and identifying causal relationships? **Answer**: Diagnostic

28. Which of the following best describes an organization's network where selected users outside the organization, such as suppliers and customers, can access specific resources and information? **Answer**: Extranet

29. Which of the following Information Systems is used to process and record day-to-day business transactions such as sales and inventory updates?

    Answer: Transaction Processing System

30. The following are business intelligence applications except **Answer**: Disease Prediction

31. What kind of e-commerce business facilitates digital collaboration between business?

    Answer: B2B

32. The following are properties of a database transaction except **Answer**: Density

33. Which e-commerce business revenue model offers digital products and services directly to customers through online platforms? **Answer**: Transaction cost

34. What is the output of the following query:

    Select AlbumName, DateReleased

    From Albums al.Artists ar

    Where al. ArtistId = ar.ArtistId and ArtistName = "Black Sherrif"

    Answer: All albums released by Black Sheriff and their dates

35. Which part of a database query selects specific rows from a table? **Answer**: Where

36. In which year did e-commerce begin to gain traction? **Answer**: 1995

37. Which of the following types of network topologies would you be building if you were to enable computers within an office to print documents directly through one printer? **Answer**: LAN

38. What is the name of the type of network in an organization where employees can access the corporate network from their homes in a secure manner over the internet? **Answer**: VPN (Virtual Private Network)

1. A scenario is an instance of a use case. **Answer**: True

2. True or false: Enterprise systems are not scalable **Answer**: False

3. True or false: Enterprise Systems have a centralized database system where all relevant data is stored **Answer**: True

4. True or false: In a many-to-one relationship, the entity on the one side absorbs the key of the entity of the many sides **Answer**: True
5. A firewall is a combination of hardware and software that prevents unauthorized users from accessing private networks. **Answer**: True

1. Match the definition on the left to the corresponding IT governance method.
   - **Risk Management**: Identifying and managing IT-related risks to protect the organization's overall assets.
   - **Policies and Compliance**: Developing and enforcing policies, standards, and procedures to ensure adherence to legal, regulatory, and effective management of IT resources.
   - **Performance Management**: Establishing metrics, benchmarks, and performance indicators to measure the efficiency and effectiveness of IT systems.
   - **Strategy and Planning**: Developing a clear IT strategy that aligns with the organization's overall strategic goals and objectives. This includes setting priorities, identifying technology investments, and creating a roadmap for IT initiatives.
2. Rank the following levels of change an organization goes through when information systems are introduced in terms of risk from lowest to highest (1-Lowest, 4-Highest).
   - 1 - **Low**: Automation
   - 2 - **Medium**: Rationalization of Procedures
   - 3 - **High**: Business Process Redesign
   - 4 - **Highest**: Paradigm Shift
3. Match the definition on the left to the corresponding testing type on the right.
   - **Unit Testing**: Tests each program in the system separately.
   - **Acceptance Testing**: Makes sure the system is ready to be used in a production setting.
   - **System Testing**: Test the functioning of the system as a whole.
   - **Regression Testing**: Tests whether changes to the system do not introduce new bugs.

4. Match the definition to the appropriate tool for safeguarding an information system.
   - **Intrusion detection system**: Monitors hot spots on corporate networks to detect and deter intruders.

- **Antivirus and antispyware software**: Checks computers for the presence of malware and can often eliminate it as well.
- **Firewall**: Employs network address translation (NAT) and packet filtering.

5. Match the following cloud computing services:
    - Which cloud computing service best suits the following scenario: Your organization has run out of storage space and you need another company to provide you additional space **Answer**: IaaS
    - Which cloud computing service best suits the following scenario: You need a desktop application but you do not want to buy one outright **Answer**: SaaS
    - Which cloud computing service best suits the following scenario: You need a service that allows you to develop your applications **Answer**: PaaS
    - The service that uses the pay-as-you-go model is typically associated with **IaaS** (Infrastructure as a Service). With IaaS, users pay for the computing resources (such as virtual machines, storage, and networking) they use on a metered basis.

1. MIS stands for **Management Information System**.

2. Information Systems focus on providing **data** for decision-making.

3. The arrangement of network devices and connections is known as **network topology**.

4. A **database** is a structured collection of data.

5. The primary key in a database is a **unique identifier** for each record in a table.

6. Business Intelligence involves analysing data to gain **insights** for decision-making.

7. Enterprise Resource Planning (ERP) systems integrate various **business functions** into a single system.

8. E-commerce involves conducting business transactions **electronically**.

9. The Waterfall model is a **sequential** approach to information systems development.

10. IT Governance focuses on ensuring IT aligns with **business goals**.

11. **Blockchain** technology ensures data integrity through decentralized and tamper-proof ledgers.

12. The digital divide refers to the gap between those with **access to technology** and those without.

13. The General Data Protection Regulation (GDPR) aims to protect **personal data** in the EU.

14. Data breaches involve unauthorized access to **sensitive information**.

15. A Dashboard displaying key performance indicators provides an overview of **business performance**.

16. Business continuity planning ensures **operations continue** in the event of a disaster.

17. The Internet of Things (IoT) connects everyday objects to the **internet**.

18. AI stands for **Artificial Intelligence**.

19. ERP systems aim to improve efficiency and coordination across **departments**.

20. Cloud computing provides **scalability** and flexibility in resource allocation.

21. Data mining involves extracting meaningful **patterns and insights** from large datasets.

22. The role of a Chief Information Officer (CIO) is to oversee the development and implementation of **MIS** within an organization.

23. Data governance ensures compliance with data **privacy regulations**.

24. The principle of least privilege states that users should have the **minimum level of access** necessary.

25. VPN stands for **Virtual Private Network**.

26. The Waterfall model involves **sequential phases** of development.

27. A centralized repository for historical data is provided by a **data warehouse**.

28. The digital divide refers to the gap between those with **access to technology** and those without.

29. Data mining involves extracting meaningful **patterns and insights** from large datasets.

30. The role of a Chief Information Officer (CIO) is to oversee the development and implementation of **MIS** within an organization.

31. The principle of least privilege states that users should have the **minimum level of access** necessary.

32. VPN stands for **Virtual Private Network**.

33. The Waterfall model involves **sequential phases** of development.

34. Database normalization involves organizing data to minimize **redundancy and improve integrity**.

35. Data analytics helps in optimizing business processes and improving **decision-making**.

36. A centralized repository for historical data is provided by a **data warehouse**.

37. True or False: Business Intelligence improves decision-making through data **analysis**.

38. What is the primary role of a Chief Information Officer (CIO)? **Overseeing** the development and implementation of MIS.

39. The digital divide refers to the gap between those with **access to technology** and those without.

40. What type of system provides an overview of key **performance indicators**? Dashboard displaying key performance indicators.

41. ERP systems aim to improve efficiency and coordination across **departments**.

42. Cloud computing provides **scalability** and flexibility in resource allocation.

43. Data breaches involve unauthorized access to **sensitive information**.

44. Information systems provide valuable data for **decision-making**.

45. The arrangement of network devices and connections is referred to as **network topology**.

46. The primary goal of a **Transaction Processing System (TPS)** is to record and process routine business transactions.

47. **Enterprise Resource Planning (ERP)** systems integrate various business functions into a single unified system.

48. **E-commerce** refers to the online buying and selling of goods and services.

49. The process of creating working software through iterative development is known as **Agile Methodology**.

50. **Data normalization** is the process of organizing data to minimize redundancy and improve integrity.

51. **Dashboard** is a type of system that provides an overview of key performance indicators.

52. The gap between those with access to technology and those without is known as the **digital divide**.

53. **Cybersecurity** focuses on protecting computer systems and networks from attacks and unauthorized access.

54. The integration of various business functions such as HR, finance, and operations into a single system is called **ERP**.

55. The use of technology to connect employees working remotely is known as **telecommuting**.

56. The **Internet of Things (IoT)** involves connecting everyday objects to the internet.

57. The main purpose of a **firewall** in network security is to control and filter incoming and outgoing network traffic.

58. **Data warehousing** provides a centralized repository for historical data.

59. The process of creating a working model of a system to demonstrate its functionality is known as **prototyping**.

60. A well-designed MIS can lead to improved **decision-making** based on accurate information.

61. The process of analysing data to discover patterns and trends is known as **data mining**.

62. The process of ensuring IT aligns with business goals and operates effectively is known as **IT governance**.

63. The process of identifying, assessing, and mitigating risks to information systems is known as **risk management**.

64. A structured collection of data organized in tables with relationships is a **relational database**.

65. The **Internet** is a global network of interconnected computers.

66. The process of designing, implementing, and maintaining an information system is called **systems development**.

67. The main goal of **business process reengineering (BPR)** is to redesign and optimize existing business processes.

68. The practice of protecting sensitive information from unauthorized access is called **data security**.

69. A collection of data organized for easy retrieval and updating is called a **database**.

1. True/False: MIS stands for Management Information System. **True**

2. Information Systems focus on providing hardware for decision-making. **False**

3. True/False: A firewall is used to manage a company's financial transactions. **False**

4. True/False: A database is a structured collection of data. **True**

5. True/False: The primary key in a database ensures that each record is unique. **True**

6. Business Intelligence involves analysing data to gain insights for decision-making. **True**

7. True/False ERP systems integrate various business functions into separate systems. **False**

8. True/False: E-commerce involves conducting business transactions electronically. **True**

9. The Agile methodology is a sequential approach to information systems dev't. **False**

10. True/False: IT Governance focuses on ensuring IT aligns with business goals. **True**

11. Blockchain technology ensures data integrity through centralized ledgers. **False**

12. The General Data Protection Regulation (GDPR) aims to protect personal data in the US. **False**

13. True/False: A Dashboard displaying key performance indicators provides a detailed view of business operations. **False**

14. Business continuity planning ensures operations continue even in disasters. **True**

15. The Internet of Things (IoT) connects everyday objects to the internet. **True**

16. True/False: AI stands for Actual Intelligence. **False**

17. Data mining involves extracting meaningful patterns and insights from large datasets. **True**

18. True/False: Data governance focuses solely on technical data management. **False**

19. True/False: Ethical issues related to MIS include data breaches and unauthorized access to sensitive information. **True**

20. True/False: The principle of least privilege states that users should have the maximum level of access necessary. **False**

21. True/False: VPN stands for Virtual Private Network. **True**

22. True/False: The Waterfall model involves iterative phases of development. **False**

23. True/False: Database normalization involves organizing data to minimize redundancy and improve integrity. **True**

24. True/False: Data analytics helps in optimizing business processes but has no impact on decision-making. **False**

25. True/False: A data warehouse is primarily used to store real-time transactional data. **False**

26. True/False: The digital divide refers to the gap between those with access to technology and those without. **True**

27. A Transaction Processing System (TPS) is designed for strategic decision-making. **False**

28. The role of a Chief Information Officer (CIO) is to manage the company's finances. **False**

29. True/False: Business Intelligence improves decision-making through data analysis. **True**

30. True/False: ERP systems aim to improve efficiency and coordination within the same department. **False**

31. True/False: Cloud computing provides only fixed resources with no scalability. **False**

32. True/False: Data breaches involve authorized access to sensitive information. **False**

Introduction to MIS:

33. True or False: MIS is the application of computer-related technologies to offer companies a competitive advantage. **True**

34. MIS primarily focuses on technical aspects such as hardware and software. **False**

35. True or False: MIS helps organizations make informed decisions based on data analysis and information management. **True**

36. True or False: MIS is solely concerned with the use of technology and does not include any managerial aspects. **False**

37. True or False: The primary goal of MIS is to automate all business processes. **False**

Information Systems in Business:

56. True or False: Information systems play a crucial role in supporting operational activities in an organization. **True**

57. True or False: An effective information system can enhance communication and collaboration within a company. **True**

58. True or False: Information systems are only used by large-scale organizations and are not relevant for small businesses. **False**

59. True or False: An information system can help organizations reduce costs and increase operational efficiency. **True**

60. True or False: Information systems provide real-time data, enabling organizations to respond quickly to market changes. **True**

Technology Infrastructure:

61. True or False: Technology infrastructure refers to the underlying hardware, software, and network infrastructure in an organization. **True**

62. True or False: Cloud computing is a technology infrastructure that enables organizations to access and store data over the Internet. **True**

63. True or False: Virtualization is a technology that allows multiple operating systems to run on a single computer. **True**

64. True or False: Fault tolerance refers to a system's ability to continue operating even when a hardware or software failure occurs. **True**

65. Technology infrastructure has no impact on organization's overall performance. **False**

Data Management & Database Systems:

66. True or False: Data management refers to the process of organizing and managing data resources effectively. **True**

67. A database is a collection of related data organized in a structured manner. **True**

68. True or False: Data redundancy is desirable in database systems as it provides backup copies of data. **False**

69. True or False: A primary key uniquely identifies each record in a database table. **True**

70. True or False: Data mining is a process of extracting useful patterns and information from large datasets. **True**

Business Intelligence and Analytics:

71. True or False: Business intelligence is the process of transforming raw data into meaningful insights for decision-making. **True**

72. True or False: Data visualization is an essential component of business intelligence, as it helps in understanding complex data through visual representations. **True**

73. Predictive analytics uses historical data to forecast future trends and outcomes. **True**

74. Business intelligence tools and techniques are only applicable to large organizations. **False**

75. True or False: Business intelligence can help organizations gain a competitive advantage by identifying market trends and customer behaviour patterns. **True**

Enterprise Systems:

76. True or False: Enterprise systems integrate various functions and processes within an organization. **True**

77. True or False: Enterprise Resource Planning (ERP) systems are designed to automate and integrate core business processes. **True**

78. True or False: CRM (Customer Relationship Management) systems focus on managing relationships with suppliers and vendors. **False**

79. True or False: Enterprise systems eliminate the need for manual data entry and streamline organizational processes. **True**

80. True or False: An organization can achieve cost savings and improved efficiency by implementing enterprise systems. **True**

E-commerce & E-business:

81. True or False: E-commerce refers to the buying and selling of goods and services over the Internet. **True**

82. True or False: E-business encompasses all online activities, including e-commerce, online banking, and online advertising. **True**

83. True or False: E-commerce reduces the need for physical stores and allows businesses to reach a global customer base. **True**

84. True or False: An online payment gateway is a secure platform that facilitates online transactions. **True**

85. E-commerce regulations and laws are consistent across different countries. **False**

Information Systems Development:

86. True or False: Systems development life cycle (SDLC) is a structured approach to developing and maintaining information systems. **True**

87. True or False: The first phase of the SDLC is the implementation phase. **False**

88. True or False: Prototyping is a rapid development technique that involves creating a working model of a system. **True**

89. True or False: Agile development methodologies focus on flexibility and adaptability throughout the development process. **True**

90. True or False: User acceptance testing is conducted to ensure that the system meets the user's requirements and expectations. **True**

IT Governance & Security:

91. True or False: IT governance refers to the processes and structures that ensure the effective and efficient use of IT resources in an organization. **True**

92. True or False: Risk management is an essential aspect of IT governance, as it helps identify and mitigate potential IT-related risks. **True**

93. True or False: Information security is the protection of information from unauthorized access, use, disclosure, disruption, modification, or destruction. **True**

94. True or False: Firewalls are hardware devices that protect computer networks from unauthorized access. **True**

95. True or False: Disaster recovery planning is not necessary for organizations, as data loss or system failure rarely occurs. **False**

Emerging Trends in MIS:

96. True or False: Internet of Things (IoT) refers to the network of physical devices connected to the internet, enabling them to collect and exchange data. **True**

97. True or False: Artificial Intelligence (AI) refers to the simulation of human intelligence by machines to perform tasks such as speech recognition and decision-making. **True**

98. True or False: Blockchain technology is primarily used for digital currencies such as Bitcoin and has no relevance to MIS. **False**

99. True or False: Robotic Process Automation (RPA) involves the use of software robots to automate repetitive and rule-based tasks. **True**

100. True or False: Virtual reality (VR) is a technology that completely immerses users in a computer-generated environment, stimulating their senses. **True**

Ethical & Social Implications of MIS:

101.   True or False: Ethical concerns in MIS include issues such as privacy, data security, and intellectual property rights. **True**

102.   True or False: Organizations are not legally obligated to safeguard the personal information of their employees and customers. **False**

103.   True or False: Social media platforms have no impact on an organization's reputation and public perception. **False**

104.   True or False: MIS has no role in promoting social responsibility and sustainability practices in organizations. **False**

105.   True or False: Whistle-blower protection laws encourage employees to report any unethical or illegal activities within their organization. **True**

106.   True or False: MIS primarily deals with data entry and storage. **False**

107.   Business Intelligence improves decision-making through data analysis. **True**

1. True or False: Management Information System (MIS) is a formal system for providing management with accurate and timely information. **- True**

2. True or False: MIS focuses only on information technologies and does not consider the broader organizational aspects. **- False**

3. True or False: Information Systems in Business play a crucial role in supporting decision-making processes. **- True**

4. True or False: The technology infrastructure refers to the hardware, software, networks, and facilities that support the operation of information systems. **- True**

5. True or False: An organization's database only stores structured data and doesn't include unstructured or semi-structured data. **- False**

6. True or False: Data warehouses are designed for transactional processing rather than analysis and reporting. **- False**

7. True or False: Business Intelligence and Analytics refers to the use of data and analytical tools to gain insights and make informed business decisions. **- True**

8. True or False: Enterprise Systems are integrated software applications that support core business functions and facilitate information sharing. **- True**

9. True or False: E-commerce and E-business are essentially the same thing and can be used interchangeably. **- False**

10. True or False: Information Systems Development involves the process of designing, implementing, and maintaining information systems in an organization. **- True**

11. True or False: IT Governance focuses on ensuring that IT systems and processes align with the organization's overall goals and objectives. **- True**

12. True or False: Security breaches and data thefts are not major concerns for organizations in the age of digitalization. **- False**

13. True or False: Cloud computing allows organizations to store and access data and applications over the internet. **- True**

14. True or False: The Internet of Things (IoT) refers to the network of physical objects embedded with sensors and connected to the internet. **- True**

15. True or False: Virtual Reality (VR) and Augmented Reality (AR) have no potential applications in the field of MIS. **- False**

16. True or False: Data mining is the process of extracting useful patterns or knowledge from a large dataset. **- True**

17. True or False: MIS can significantly improve supply chain management efficiency by providing real-time information on inventory levels and demand. **- True**

18. True or False: Telecommuting and remote work are not feasible options for most jobs in the current business environment. **- False**

19. True or False: Crowdsourcing involves outsourcing tasks to a large group of people, usually through an online platform. **- True**

20. Virtual teams are teams that work together in the same physical location. **- False**

21. True or False: Social media analytics can be used to monitor customer sentiment and improve brand reputation. **- True**

22. True or False: Agile development methodologies emphasize adaptability and collaboration over rigid planning and documentation. **- True**

23. True or False: Business Process Reengineering (BPR) is the process of making minor adjustments to existing business processes. **- False**

24. True or False: Customer Relationship Management (CRM) systems primarily focus on managing customer interactions and improving customer satisfaction. **- True**

25. True or False: Geographic Information Systems (GIS) can be used for mapping and analysing spatial data. **- True**

26. True or False: Data encryption is an effective way to protect data from unauthorized access. **- True**

27. True or False: Spamming is not a significant issue in email communication. **- False**

28. True or False: In a data-driven decision-making process, intuition and gut feelings play a more significant role than data analysis. **- False**

29. True or False: Ethical issues in MIS mainly involve the protection of privacy and confidentiality of personal information. **- True**

30. True or False: Open-source software refers to software that is freely available and can be modified and redistributed. **- True**

31. True or False: Customer Relationship Management systems primarily focus on managing customer interactions and improving employee satisfaction **- False**

32. True or False: The use of business analytics can significantly impact an organization's profitability and performance. **- True**

33. Real-time data processing involves delays and batching of data before processing. **- False**

34. True or False: The use of technology in supply chain management has no impact on sustainability and environmental concerns. **- False**

35. Digital marketing strategies cannot be tracked and measured effectively. **- False**

36. True or False: Blockchain technology is primarily associated with cryptocurrencies and has no real-world business applications. **- False**

37. True or False: Knowledge Management systems focus on capturing, organizing, and sharing an organization's intellectual capital. **- True**

38. True or False: The use of artificial intelligence (AI) in MIS can automate routine tasks and improve decision-making processes. **- True**

39. True or False: Social media platforms have no significant impact on consumer behaviour and purchasing decisions. **- False**

40. True or False: Data backup and disaster recovery strategies are not essential components of an organization's IT infrastructure. **- False**

41. True or False: Legacy systems refer to outdated computer hardware and have no significance in modern organizations. **- False**

42. True or False: Virtual private networks (VPNs) provide secure and encrypted connections over a public network, such as the internet. **- True**

43. True or False: The use of information systems in healthcare has no impact on patient safety and quality of care. **- False**

44. True or False: Crowdfunding is a financing method that involves raising funds from a large number of individuals **- True**

45. True or False: Agile development methodologies prioritize robust documentation over responsiveness to changing requirements. **- False**

46. True or False: Data governance refers to the practice of managing the availability, usability, integrity, and security of an organization's data. **- True**

47. True or False: The adoption of mobile payment technologies leads to increased security risks and vulnerabilities. **- True**

48. True or False: Cloud computing eliminates the need for organizations to maintain physical servers and infrastructure. **- True**

49. True or False: Business Intelligence and Analytics cannot be used to gain insights from unstructured or semi-structured data. **- False**

50. True or False: The ethical use of technology in MIS requires organizations to be transparent, respect privacy, and protect intellectual property. **– True**

1. True or False: Management Information Systems mainly deal with software and hardware used in business organizations. **Answer**: False

2. True or False: Information Systems in Business refer to systems that are designed to support decision-making processes within an organization. **Answer**: True

3. True or False: Technology Infrastructure defines the hardware, software, and telecommunications networks that enable the processing and distribution of data among organizational units and individuals. **Answer**: True

4. True or False: Data management refers to the process of capturing, storing, and maintaining data in electronic form. **Answer**: True

5. True or False: Business Intelligence (BI) and Analytics takes on the role of finding insights within large, complex disorganized volumes of data. **Answer**: True

6. True or False: Enterprise Systems are customized to support the unique needs of each organization. **Answer**: False

7. True or False: E-commerce and E-business refer to the process by which online businesses sell and distribute their products. **Answer**: True

8. True or False: Information Systems Development involves activities that help organizations design, develop, and implement information systems. **Answer**: True

9. True or False: IT Governance and Security involves the development and implementation of policies and procedures that protect an organization's   information assets. **Answer**: True

10. True or False: Emerging Trends in MIS refer to the application and implementation of technology within a business environment. **Answer**: True

11. True or False: Ethical and Social Implications of MIS typically involve data privacy and security concerns. **Answer**: True

12. True or False: Case Studies and Applications allow students to use their knowledge of MIS in a real-world environment. **Answer**: True

13. True or False: An effective information system is able to provide accurate, timely, and useful information. **Answer**: True

14. True or False: Information systems can improve decision-making by providing more comprehensive and accurate information. **Answer**: True

15. True or False: A database management system (DBMS) is a software application used to create, maintain, and manipulate databases. **Answer**: True

16. True or False: A major weakness of digital business intelligence and analytics is the potential for data privacy breaches. **Answer**: True

17. True or False: Enterprise systems refer to stand-alone computer programs that an organization uses to support specific business functions. **Answer**: False

18. True or False: An effective e-commerce platform can help a business reduce costs associated with traditional advertising. **Answer**: True

19.Waterfall model is an agile methodology of developing information systems. **Answer**: False

20. True or False: The main role of IT governance is to lower the costs of technology development and implementation. **Answer**: False

21. True or False: An organization's technological infrastructure can have a major impact on its ability to compete in the marketplace. **Answer**: True

22. True or False: A major goal of data management and database systems is to ensure the security and privacy of an organization's data. **Answer**: True

23. A major advantage of business intelligence and analytics is that they allow organizations to make more informed decisions by analysing large volumes of data. **Answer**: True

24. True or False: Enterprise Resource Planning (ERP) systems are typically customized to meet the specific needs of each organization. **Answer**: False

25. True or False: E-commerce and E-business are the same thing. **Answer**: False

26. True or False: The Systems Development Life Cycle (SDLC) is a framework used to manage the development of information systems. **Answer**: True

27. True or False: IT governance refers to the processes, policies, and procedures that help ensure the effective and efficient use of information technology. **Answer**: True

28. True or False: Emerging trends in MIS include the increased use of cloud-based technologies and the Internet of Things (IoT). **Answer**: True

29. True or False: Information systems within an organization are typically classified as either operational, managerial, or strategic. **Answer**: True

30. True or False: An ERP system integrates all facets of an organization's operations into a single system. **Answer**: True

31. True or False: One of the main drivers behind the growth of e-commerce is the reduction in communication and transaction costs. **Answer**: True

32. True or False: Rapid Application Development (RAD) is a model of information systems development that emphasizes speed over documentation. **Answer**: True

33. True or False: A data warehouse is a collection of data that can be used to support decision-making processes. **Answer**: True

34. True or False: A major advantage of business intelligence and analytics is that they can be used to monitor and track key performance indicators (KPIs). **Answer**: True

35. True or False: The use of IT governance and security frameworks can help organizations reduce the risk of data breaches. **Answer**: True

36. True or False: Organizations must balance the need for security with the need for ease of access to data. **Answer**: True

37. True or False: Management Information Systems are used primarily by senior executives within an organization. **Answer**: False

38. True or False: A major advantage of cloud-based technologies is that they can be scaled up or down based on an organization's needs. **Answer**: True

39. True or False: An organization's technological infrastructure can have little impact on its ability to compete in the marketplace. **Answer**: False

40. True or False: A major advantage of business intelligence and analytics is that they can be used to gain insights into customer behaviour. **Answer**: True

41. True or False: Enterprise Systems can help organizations automate key business processes and activities. **Answer**: True

42. True or False: An effectively managed database can help organizations increase the accuracy and completeness of their data. **Answer**: True

43. True or False: Digital business intelligence and analytics often require specialized tools and software applications. **Answer**: True

44. True or False: The use of agile methodologies can help organizations develop information systems more quickly. **Answer**: True

45. True or False: Data mining techniques can be used to identify patterns and relationships within large datasets. **Answer**: True

46. True or False: A major advantage of e-commerce is that it can increase customer satisfaction by providing them with more product options. **Answer**: True

47. True or False: An effective IT governance framework can help organizations manage the risks associated with the use of technology. **Answer**: True

48. True or False: Emerging trends in MIS include the use of machine learning and artificial intelligence. **Answer**: True

49. True or False: One of the key disadvantages of traditional waterfall methodologies is that they are time-consuming and often require significant investment. **Answer**: True

50. True or False: It is only through the effective use of MIS that organizations can gain a competitive advantage in the marketplace. **Answer**: False

1. What is the purpose of data backup and recovery in a Management Information System?
   Answer: To protect against data loss and enable data restoration

2. Which of the following is an example of a business process in a Management Information System? **Answer**: Storing customer data in a database

3. Which of the following is an example of a productivity tool used in a Management Information System? **Answer**: Project management software

4. What is the purpose of data governance in a Management Information System?
   Answer: To ensure compliance with data privacy regulations

5. Which of the following is an example of an executive information system (EIS) in a Management Information System?
   Answer: Dashboard displaying key performance indicators

6. Which of the following is an example of a customer relationship management (CRM) system in a Management Information System? **Answer**: Sales force automation software

7. Which of the following is an example of a collaboration tool used in a Management Information System? **Answer**: Project management software

8. What is a benefit of using cloud computing in a Management Information System?
   Answer: Scalability and flexibility in resource allocation

12. What is the role of business intelligence (BI) tools in a Management Information System?
    Answer: To analyse market trends and customer behaviour

13. What is an example of a knowledge management system in a Management Information System? **Answer**: Document management system

14. What is the role of data governance in a Management Information System?

    Answer: To ensure compliance with data privacy regulations

15. What is an example of an executive information system (EIS) in a Management Information System? **Answer**: Dashboard displaying key performance indicators

16. What is the purpose of data normalization in a Management Information System?

    Answer: To ensure data accuracy and integrity within the system

17. What is an example of a customer relationship management (CRM) system in a Management Information System? **Answer**: Sales force automation software

18. What is the purpose of data warehousing in a Management Information System?

    Answer: To provide a centralized repository for historical data

19. What is the purpose of data validation in a Management Information System?

    Answer: To ensure data accuracy and integrity within the system

20. What is a potential ethical issue related to the use of Management Information Systems?

    Answer: Data breaches and unauthorized access to sensitive information

21. What is the purpose of data integration in a Management Information System?

    Answer: To ensure data accuracy and integrity within the system

22. What is an example of a productivity tool used in a Management Information System?

    Answer: Project management software

23. What best describes Management Information Systems (MIS)?

    Answer: A system that provides information for decision-making in an organization

24. What is the primary goal of a Management Information System?

    Answer: To improve the efficiency of an organization's operations

25. Which is an example of an operational-level decision supported by a Management Information System? **Answer**: Determining the optimal production schedule for a factory

26. What technology is commonly used for data storage and retrieval in Management Information Systems? **Answer**: Cloud computing

27. What is the role of a Chief Information Officer (CIO) in relation to Management Information Systems?

    Answer: Overseeing the development and implementation of MIS within an organization

28. Which is an example of a decision support system? **Business intelligence (BI) dashboard**

29. What is the purpose of a data warehouse in a Management Information System?

    Answer: To provide a centralized repository for historical data

30. What is the significance of data analytics in Management Information Systems?

    Answer: It helps in optimizing business processes and improving decision-making

31. What is a potential risk associated with the implementation of a Management Information System? **Answer**: Data breaches and unauthorized access to sensitive information

32. What is an example of a transaction processing system? **Answer**: Online banking system

33. What is the purpose of a decision support system (DSS) in an organization?

    Answer: To provide information and analysis to support decision-making

34. What is an example of a strategic-level decision supported by a Management Information System? **Answer**: Analysing market trends to identify new business opportunities

35. What is the role of a database management system (DBMS) in a Management Information System? **Answer**: To store, organize, and retrieve data efficiently

36. What is an example of a key performance indicator (KPI) in a Management Information System? **Answer**: Total revenue generated by the organization

37. What is the role of data visualization in a Management Information System?

    Answer: To present data in a visual format for easy understanding

38. What is a characteristic of a well-designed Management Information System?

    Answer: Scalability to accommodate future growth and changes

39. What is the purpose of business process reengineering (BPR) in the context of Management Information Systems?

    Answer: To redesign and optimize existing business processes using technology

40. What is an example of a supply chain management (SCM) software in a Management Information System? **Answer**: Inventory management software

41. What is the purpose of data mining in a Management Information System?

    Answer: To extract meaningful patterns and insights from large datasets

42. What is a benefit of using cloud computing in a Management Information System?

    Answer: Scalability and flexibility

45. Which field is concerned with the arrangement of network devices and connections?
    Answer: Networking

46. MIS focuses on providing information for: **Answer**: Decision-making

47. What is the primary goal of implementing a Management Information System?
    Answer: To improve organizational efficiency and effectiveness

48. What type of system generates regular reports summarizing data for middle-level managers? **Answer**: Management Reporting System

49. What is the main purpose of a Transaction Processing System (TPS)?
    Answer: To record and process routine business transactions

50. Which system is designed to assist top-level executives with strategic decision-making?
    Answer: Executive Information System (EIS)

51. What is the primary function of Customer Relationship Management (CRM) systems?
    Answer: Managing customer interactions and relationships

52. What does Supply Chain Management (SCM) primarily involve?

Answer: Managing the flow of goods and services from suppliers to customers

53. What system integrates various business functions into a single unified system?

    Answer: Enterprise Resource Planning

54. What does network topology refer to?

    Answer: The arrangement of network devices and connections

55. What is the main purpose of a firewall in network security?

    Answer: To protect the network from unauthorized access

56. What is the role of a router in networking?

    Answer: It directs data packets between different networks

57. What does VPN stand for? **Answer**: Virtual Private Network

58. What technology involves connecting everyday objects to the internet? **Answer**: IoT

59. What is a database? **Answer**: A structured collection of data

60. What is a primary key in a database? **Answer**: A unique identifier for each record in a table

61. What is data normalization in database design?

    Answer: Organizing data to minimize redundancy and improve integrity

62. Which language is commonly used to interact with database **Structured Query Language**

63. Which database model is widely used in modern database systems?

    Answer: Relational Database Model

64. What is the purpose of data mining? **To discover patterns and trends in large datasets**

65. What does OLAP stand for? **Answer**: Online Analytical Processing

66. Which type of analysis aims to explain why certain events occurred? **Diagnostic Analysis**

67. What is the purpose of prescriptive analytics? **To recommend actions based on analysis**

68. What type of chart is suitable for displaying trends over time? **Line Chart**

69. What benefit does ERP offer?

    Answer: Improved efficiency and coordination across departments

70. What is the term for a system that extends beyond a company's boundaries to include suppliers and customers? **Answer**: Extended Enterprise System

71. What is a common challenge during information system implementation?

    Answer: Change management and user resistance

72. What does HRMS stand for? **Answer**: Human Resource Management System

73. What differentiates e-commerce from e-business?

E-commerce focuses on online transactions, while e-business includes broader activities

74. What does B2C stand for? **Answer**: Business-to-Consumer

75. What type of e-commerce involves direct collaboration between consumers?

    Answer: Consumer-to-Consumer (C2C)

76. What is m-commerce? **Answer**: E-commerce conducted through mobile devices

77. What are digital goods? **Goods that can be delivered electronically over a network**

78. What is the purpose of systems analysis?

    Answer: To guide the process of creating information systems

79. What phase involves understanding and defining the problem to be solved? **Analysis**

80. What does prototyping involve in system development?

    Answer: Creating a working model to demonstrate system functionality

81. Which methodology emphasizes iterative development and customer collaboration?

    Answer: Agile Methodology

82. What is IT governance concerned with?

Answer: Ensuring IT aligns with business goals and operates effectively

83. What is the principle of least privilege?

    Answer: Users should have the minimum level of access necessary to perform their tasks

84. What is encryption used for in cybersecurity?

    Answer: To protect data by converting it into a secure format

85. What does a firewall do? **To control and filter incoming and outgoing network traffic**

86. What does business continuity planning focus on?

    Answer: To ensure business continuity in the event of a disaster

87. What is AI concerned with? **Answer**: Artificial Intelligence

88. How does block chain ensure data integrity?

    Answer: By creating a decentralized and tamper-proof ledger

89. How does data analytics contribute to decision-making?

    Answer: It enables data-driven decision-making and insights

90. What is Machine Learning?

    Answer: A subset of AI that allows systems to learn from data and improve over time

91. What is the purpose of virtual reality in MIS?

    Answer: To create immersive and interactive user experiences

92. What ethical issue is associated with data privacy?

    Answer: Unauthorized access and misuse of personal information

93. What type of breach involves unauthorized access to sensitive data? **Cybersecurity breach**

94. What term describes the digital divide?

    Answer: The gap between those with access to technology and those without

95. What regulation aims to protect personal data in the EU?

    Answer: General Data Protection Regulation

96. How can organizations address ethical issues in MIS?

    Answer: Establishing clear policies, training, and monitoring

97. What is a potential benefit of using a well-designed MIS?

    Answer: Improved decision-making based on accurate information

98. What is the main purpose of data backup and recovery?

    Answer: To protect against data loss and enable data restoration

99. Which process involves recording customer orders in a database?

    Answer: Storing customer data in a database

100. What is the main goal of Project Management software?

    Answer: To facilitate communication between different departments

101. What is the primary function of data validation?

    Answer: To ensure data accuracy and integrity within the system

102. What ethical concern involves unauthorized access to sensitive data?

    Answer: Data breaches and unauthorized access to sensitive information

103. What is the primary purpose of data integration in MIS?

    Answer: To ensure data accuracy and integrity within the system

104. What is the role of data governance in MIS?

    Answer: To ensure compliance with data privacy regulations

105. What type of system provides an overview of key performance indicators?

    Answer: Dashboard displaying key performance indicators

MATCHING QUESTIONS

Introduction to MIS:

1: Match the following terms with their definitions:

1. **Information System**:   A group of interrelated components that work together to collect, process, store, and distribute information
2. **Data:**   Facts and figures that are collected, analysed, and used for decision-making
3. **Knowledge:**   A set of processes that transform raw data into useful information
4. **Decision-making:**   The process of transforming data into useful information and insights

2: Match the following terms with their descriptions:

1. **Strategic Information System:** Provides information for making strategic decisions at the highest level of the organization
2. **Transaction Processing System:** Supports routine, day-to-day activities of a business
3. **Operational Information System:** Helps middle managers make tactical decisions to solve short-term problems
4. **Management Information System:** Focuses on managing and controlling operational activities within a business

Information Systems in Business:

1: Match the following information systems with their descriptions:

1. **Executive Support Systems**:   Supports top-level managers in making strategic decisions by providing access to summary information and key performance indicators
2. **Expert Systems:**   Utilize artificial intelligence techniques to make recommendations or solve problems based on expert knowledge
3. **Decision Support Systems:**   Helps users analyse complex problems, develop alternative solutions, and make decisions
4. **Business Intelligence Systems:**   Extract and analyse large volumes of data to identify patterns, trends, and insights

2: Match the following terms with their definitions:

1. **Primary Data**: Data that is collected first-hand for the specific purpose of a research project
2. **Secondary Data:** Existing data that was collected for a purpose other than the one at hand
3. **External Data**: Data collected by someone other than the user
4. **Internal Data:** Data that is collected within the organization for its own use

Technology Infrastructure:

1: Match the following technology components with their respective descriptions.

A. **Servers**:   Manage user access to network resources.
B. **Network switches**:   Direct network traffic to specific devices.
C. **Routers**:   Handle requests for web pages and other online content.
D. **Data centres**:   Provide centralized data storage and processing capabilities

2: Match the following network topologies with their descriptions.

A. **Bus**:   All devices are connected in a linear manner.

B. **Star**   All devices are connected to a central device.

C. **Ring**   Devices are connected in a closed loop.

D. **Mesh**   Devices are connected to each other in a network grid.

Data Management & Database Systems:

1: Match the following database concepts with their definitions.

A. **Entity**   A collection of related attributes that describes an object in the real world.

B. **Attribute**   A single, uniquely identifiable occurrence of an entity.

C. **Relationship**   Association between two or more entities

D. **Primary** Key   A unique identifier for an instance of an entity.

2: Match the following database normalization forms with their descriptions.

A. **First Normal Form (1NF)**:   Separates data without redundancy

B. **Second Normal Form (2NF)**:   Ensures every non-key attribute is functionally dependent on the primary key.

C. **Third Normal Form (3NF):**   Removes transitive dependency between non-key attributes.

D**. Boyce-Codd Normal Form (BCNF)**: Eliminates repeating groups in tables.

Business Intelligence and Analytics:

1: Match the following terms used in business intelligence with their definitions.

A. **Data mining** Extracting meaningful patterns and knowledge from large and complex datasets

B. **OLAP**:   Organizing and summarizing data for interactive analysis

C. **Predictive analytics:** Using statistical models to forecast future outcomes or behaviours.

D. **Descriptive analytics:** Analysing historical data to identify trends and make informed business decisions.

2: Match the following visualization techniques with their purposes.

A. **Line chart**   Shows the relationship between two variables in a continuous manner.

B. **Bar chart**   Compares categorical data using vertical or horizontal bars.

C. **Scatter plot**   Represents data as points on a two-dimensional graph.

D**. Pie chart**   Illustrates proportions of a whole by dividing a circle into sectors.

Enterprise Systems:

1: Match the following enterprise system modules with their functions.

A. **Human Resources:** Facilitates the management of employee information, payroll, and benefits.

B**. Customer Relationship Management (CRM):** Helps track sales, manage customer interactions, and improve marketing campaigns.

C. **Supply Chain Management (SCM):** Optimizes the flow of products, information, and finances across the entire supply chain.

D. **Financial Management:** Supports accounting, budgeting, and financial reporting processes.

2: Match the following enterprise system integration levels with their descriptions.
A**. Data integration:**   Sharing data between different enterprise systems.
B. **Process integration:**   Aligning business processes across different functional areas.
C. **Application integration:**   Combining multiple enterprise systems into a unified platform.
D. **System integration:**   Connecting hardware, software, and networks to ensure smooth data flow.

E-commerce & E-business:
 1: Match the following e-commerce models with their descriptions.
A. **Business-to-Consumer (B2C):** Selling products or services directly to individual consumers.
B. **Business-to-Business (B2B):**   Trading goods or services between businesses.
C. **Consumer-to-Consumer (C2C):** Online marketplace where individuals can buy and sell products or services.
D. **Consumer-to-Business (C2B):** Individuals or consumers offering products or services to businesses.

2: Match the following e-business models with their descriptions.
A. **Brick-and-Mortar:**   Traditional physical store with no online presence.
B. **Click-and-Mortar:**   Combining online and offline operations.
C. **Pure Play:**   Operating solely through an online platform.
D. **Merchant:**   Selling products or services online.

Information Systems Development
1. Match the following SDLC phases with their corresponding descriptions:
a) **Requirements gathering**   Identifying system requirements and user needs
b) **Design**   Creating a visual representation of the system
c) **Implementation**   Building the system according to specifications
d) **Testing**   Evaluating and ensuring the quality of the system
e) **Maintenance**   Translating user requirements into technical specifications

2. Match the following terms related to Information Systems Development with their corresponding descriptions.
            Terms: **Descriptions:**
1. **Waterfall model:**   A structured approach to software development, where each phase must be completed before moving onto the next.
2. **Agile development:**   A development approach that involves breaking the project into smaller parts and continuously improving each part.
3**. Prototype model:**   A model that emphasizes building a working model of the system early in the development process.
4. **Spiral model:**   A model that combines elements of both the waterfall and prototype models, where development occurs in cycles.

5. **Incremental development:** A model that involves adding functionality to the system in incremental steps.

3. Match the following software development methodologies with their descriptions:
a) **Waterfall:** Sequential approach with distinct phases
b) **Agile:** Emphasizes on adaptability and delivering working software quickly
c) **Scrum:** Focuses on flexibility and collaboration
d) **RAD (Rapid Application Dev't):** Iterative and incremental development with rapid prototyping

4. Match the following phases of the SDLC with their descriptions:
1) In this phase, the system requirements are gathered and analyzed to understand the user needs and the scope of the project. **Analysis**
2) In this phase, the system design is created, including the architecture, database design, and user interface design. **Design**
3) In this phase, the system is developed and implemented, including coding, hardware setup, and software installation. **Implementation**
4) In this phase, the system is tested to ensure its functionality, performance, and reliability before deployment. **Testing**

5. Match the following system development methodologies with their descriptions:
1) This methodology follows a sequential, linear approach where each phase of the SDLC is completed before moving to the next phase. **Waterfall Model**
2) This methodology promotes iterative and incremental development, with frequent collaboration between developers and stakeholders. **Agile Methodology**
3) This methodology emphasizes rapid prototyping and iterative development to quickly produce functioning systems. **Rapid Application Development (RAD)**
4) This methodology combines elements from the waterfall model and the iterative approach to handle large and complex projects. **Spiral Model**
5) This methodology is a framework for managing and organizing agile projects, with a focus on iterative development and self-organizing teams. **Scrum**
6) This methodology is a visual workflow management system that promotes continuous delivery and improvement, with an emphasis on efficiency. **Kanban**

6. Match the following types of testing with their descriptions:
1) This type of testing focuses on verifying the individual components or modules of the system.
Unit Testing
2) This type of testing verifies the interaction and communication between different modules or components of the system. **Integration Testing**
3) This type of testing validates the system as a whole, ensuring that it meets the specified requirements and functions correctly. **System Testing**

4) This type of testing is performed by end-users to ensure that the system meets their needs and expectations. **User Acceptance Testing**

7. Match the following software development roles with their descriptions:

1) This role is responsible for planning, organizing, and coordinating the development process, ensuring that it is completed within time, budget, and scope. **Project Manager**

2) This role acts as a bridge between stakeholders and developers, gathering and analysing requirements to ensure that the software meets user needs. **Business Analyst**

3) This role is responsible for writing, coding, testing, and debugging software to meet the specifications and requirements. **Software Developer**

4) This role is responsible for testing and evaluating the quality of the software through various methods to ensure its functionality and performance. **Quality Assurance (QA) Analyst**

IT Governance & Security

1. Match the following IT governance frameworks with their descriptions:

a) **COBIT**   Focuses on aligning IT and business objectives

b) **ITIL**   Guides organizations in IT service management

c) **ISO 27001**   Provides guidelines for information security policies

d) **NIST Cyber Security Framework**   Emphasizes on risk management and compliance

2. Match the following security measures with their descriptions:

a) **Encryption**   Scrambles data to prevent unauthorized reading

b) **Firewall**   Identifies and blocks malicious network traffic

c) **Authentication**   Verifies the identity of users accessing systems

d) **Intrusion Detection System**   Protects against unauthorized access to data

Emerging Trends in MIS

1. Match the following emerging technologies with their brief explanations:

a) **Artificial Intelligence**   Computers mimic human intelligence and behaviour

b) **Blockchain**   Distributed ledger technology for secure transactions

c) **Internet of Things**   Interconnection of physical devices via the internet

d) **Cloud Computing**   On-demand delivery of IT resources over the internet

2. Match the following emerging trends in MIS with their descriptions:

a) **Big Data Analytics**   Techniques for analysing large and complex datasets

b) **Mobile Computing**   Accessing and processing data on portable devices

c) **Social Media Integration**   Incorporating social networks into business processes

d) **E-commerce and M-commerce**   Conducting business transactions online

Ethical & Social Implications of MIS

1. Match the following ethical concepts with their explanations:

a) **Privacy** Protecting personal information from unauthorized use

b) **Intellectual Property** Ownership of creative and intellectual works

c) **Cybersecurity** Measures to protect against digital threats and attacks

d) **Plagiarism** Unauthorized use or presentation of someone else's work

2. Match the following ethical principles with their descriptions:

a) **Confidentiality** Keeping information private and only accessible to authorized individuals

b) **Integrity** Ensuring the accuracy and reliability of information

c) **Non-discrimination** Treating individuals fairly and without bias

d) **Accountability** Taking responsibility for one's actions and decisions

Case Studies & Applications

1. Match the following case studies with the corresponding MIS applications:

a) **Amazon.com** Online Marketplace Platform

b) **Airbnb** Customer Relationship Management System

c) **Uber** Transportation Network Management System

d) **Walmart** Supply Chain Management System

2. Match the following case study descriptions with the associated companies:

a) A social networking platform connecting professionals **LinkedIn**

b) A ride-sharing service connecting drivers with passengers **Uber**

c) An e-commerce platform connecting buyers and sellers **Facebook**

d) A social media platform for artisans and crafters **Etsy**