

Important Instructions:

- Place a **circle ONLY** on the **letter** (i.e., A, B, C, or D) of your answer choice.
- If you change your answer, make sure you put a clear **X** on your first choice.

- ✓ 1. What makes DSS an important requirement for companies?
☒ A) Greater competition between companies in a fast-paced business world.
B) Greater expansion of cloud services for both storage and software as a service.
C) Greater hardware and network capabilities.
D) Greater speed and availability of the Internet.
- X 2. Which is the third step in the 4-step managerial decision making process?
A) Create an appropriate model.
☒ B) Determine possible solutions and evaluate them.
C) Recommend the best solution to the problem.
D) Understand the problem completely.
- ✓ 3. Which of the following is a factor that may impact your company decisions?
☒ A) All of the options are true.
B) Change in government policies on related business regulations.
C) The great increase in overseas shipping costs.
D) The continued monthly decrease in the number of company customers.
- ✓ 4. During which phase of the decision-making process is data collection conducted:
☒ A) Intelligence C) Choice
B) Design D) Implementation
- ✓ 5. After which phase of the decision-making process is verification and testing of the suggested solution conducted:
A) Intelligence ☒ C) Choice
B) Design D) Implementation
- ✓ 6. At which level of an organization is operational control carried-out:
☒ A) Department level C) Upper management level
B) Division level D) All of the options are true
- ✓ 7. Planning social responsibility and research and development are considered to be:
A) Structured decisions ☒ C) Non-structured decisions
B) Semi-structured decisions D) None of the options are true
- X 8. A characteristic that is more associated with a DSS than typical data-based systems:
A) Multiple users ☒ C) Mathematical modeling
☒ B) User-friendly interface D) Reports generation
- ✓ 9. What does ERP stand for?
☒ A) Enterprise Resource Planning C) Electronic Resource Planning
B) Enterprise Records Planning D) Electronic Records Planning
- X 10. DSS has undergone several naming transformations, what is the latest popular name?
A) Expert systems ☒ C) Analytics
☒ B) Executive Information systems D) Business intelligence

11. What is a main difference between an ERP system & previous functional systems?

- ☐ A) All of the options are true
- ☐ B) It gets its data from the company's data warehouse.
- ☒ C) It enables reports generation.
- ☐ D) It presents a single source of truth for data items in the system.

12. Business Intelligence systems are NOT used for:

- ☒ A) Conducting analysis and producing reports based on historical data.
- ☐ B) Data warehousing processes.
- ☒ C) Running day to day business transactions.
- ☐ D) Enabling business performance management.

13. Which of the following is an important source of data for a data warehouse:

- ☐ A) Co. website sales transactions
- ☐ B) Social media communications
- ☐ C) ERP system
- ☒ D) All of the options are true

14. What is the ETL process related to data warehousing used for?

- ☐ A) All of the options are true
- ☐ B) Extracting data from a data warehouse for analysis and reporting purposes
- ☐ C) Extracting data from the enterprise data warehouse and loading in into a data mart
- ☒ D) Extracting the data from ERP and other sources to be loaded into the data warehouse

15. What is the main purpose of a data mart?

- ☐ A) It is the only system where users may be able to generate analytics reports.
- ☐ B) It is a staging area for data before being loaded into the data warehouse.
- ☐ C) It is the only data storage where data mining models can be executed.
- ☒ D) It is a subset of a data warehouse including data for a specific functional area.

16. What is the main purpose of an operational data store (ODS)?

- ☐ A) It is the only system where users may be able to generate analytics reports.
- ☒ B) It is a staging area for data before being loaded into the data warehouse.
- ☐ C) It is the only data storage where data mining models can be executed.
- ☐ D) It is a subset of a data warehouse including data for a specific functional area.

17. An enabler for descriptive analytics includes which of the following?

- ☐ A) Expert systems
- ☐ B) Data mining
- ☐ C) Forecasting
- ☒ D) Data warehousing

18. Predictive analytics aims to accomplish which of the following?

- ☐ A) All of the options are true
- ☐ B) Give decision makers guidance on which action to take
- ☒ C) Gives a good idea of what to expect in the future
- ☐ D) Describes clearly the current situation at hand

19. In dealing with big data, the Hadoop distributed file systems (HDFS) enables the physical storage of data on which of the following?

- ☐ A) One large server
- ☒ B) Many different servers
- ☐ C) A single super data warehouse
- ☐ D) All of the options are true

20. Big data may include which of the following data?

- ☒ A) Streaming videos
- ☒ B) Web logs
- ☐ C) Image files
- ☒ D) All of the options are true

Read very carefully:

Choose the best answer. **ONLY use a small circle around the letter of the correct answer** to make your choice. If you make a change, make sure to put an X on the wrong choice.

- ✓ 1. Which of the following is NOT one of the major AI technologies?
A) Parallel processing C) Computer Vision
B) Voice recognition D) Machine learning
- ✗ 2. An autonomous, small computer program that acts upon changing environments as directed by stored knowledge is called:
A) Machine learning C) Intelligent agent
B) ERP D) Expert system
- ✓ 3. What type of system generates expert advice and give recommendations?
A) Machine learning C) Intelligent agent
B) ERP D) Expert system
- ✗ 4. Integration of digital information within the user environment in real time, providing people real-world interactive experience with the environment is:
A) Augmentation C) Cognitive computing
B) NLP D) Deep Learning
- ✓ 5. Natural language processing (NLP) is used for which of the following?
A) Speech generation C) All options are true
B) Voice understanding D) text recognition
- ✓ 6. The ability to sit with experts and extracting (getting) their knowledge in order to develop an important DSS is called:
A) Knowledge acquisition C) None of the options are true
B) Knowledge collection D) Knowledge representation
- ✓ 7. The persons who are responsible for extracting knowledge from experts are called:
A) Knowledge developer C) None of the options are true
B) Knowledge collector D) Knowledge engineer
- ✓ 8. Walmart has started using AI in some of its stores, which of the following is a main component in their data analysis
A) Big data C) All options are true
B) Image recognition D) Video analysis
- ✗ 9. For which of the following is AI used in Human resources management?
A) Future sales forecasting C) All options are true
B) Detecting hackers D) Personalized training
- ✓ 10. For which of the following is AI used in marketing and advertising?
A) Customer segmentation C) All options are true
B) Website design D) Dynamic pricing

11. The main purpose of data mining is use large sets of data to recognize:
A) Experts in a field C) Mathematical models
B) Patterns in the data D) Statistical models
12. How did data mining help the Miami Dade police department with unsolved cases?
A) Show videos of criminals as they conduct the crime.
B) Encourage people to give information to the police.
C) Match collected clues with previous crimes
D) All options are true.
13. What made data mining a much more important option these days for businesses?
A) Greater use of data warehouses C) All options are true
B) More data available D) lower data processing costs
14. The ability to find some relationship between different entities in DM is called?
A) Clustering C) Segmentation
B) Prediction D) Association
15. The ability to predict the expected value of a specific entity after some time is:
A) Classification C) Market-basket analysis
B) Time-analysis series D) Sequence analysis
16. Which is the most commonly used data-mining process by companies?
A) CRISP-DM C) All are equal in popularity
B) SEMMA D) KDD
17. The step where a DM model developer needs to check if the existing data can help in creating the desired model:
A) Data preparation C) Testing and verification
B) Business understanding D) Data understanding
18. When using the K-means clustering algorithm, where $K = 4$, what is the percent of training data for each iteration of the run?
A) 4% C) 25%
B) 40% D) 75%
19. Which formula is used to tell us what is the percent of truly predicted classes from the overall true predictions?
A) Precision C) Recall
B) Accuracy D) True positive rate
20. In decision tree analysis, how is the best splitting attribute selected to start at the root node?
A) The first attribute in the table of selected data attributes.
B) The first nominal data attribute in the list of attributes.
C) It depends on the actual decision tree algorithm being used.
D) The first ordinal data attribute in the list of attributes.