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1. Which of the following creates a greater need for companies to use decision support systems?
A) More companies using software as a service (SAAS)
B) The much greater number of point-of-sale (POS) terminals
✓ C) Fast changing business requirements and growing competition
D) Greater speed and availability of the Internet
 2. In the decision making process, which of the following is NOT an activity of the design phase?
✓ A) Problem classification
B) Checking for alternatives
C) Setting criteria for choice
D) Develop a model
 - ✗ 3. Which of the following is a type of decision in the decision support framework
A) Semi-structured
B) Ad hoc
C) group decision
D) All of the above are true
 - ✗ 4. A knowledge-base can be found in which of the following?
A) Expert system
B) Decision support system
C) Chat bot
D) All of the options are true
 - ✓ 5. An integrated system where the daily functional transactions are reflected
A) Expert system
B) Social network
C) ERP
D) None of the options are true
 - ✓ 6. Which of the following is NOT a main features of a data warehouse?
A) Reflects daily transactions
B) Holds select historical data
C) Collects data from different systems
D) enables forecasting and predictive analysis
 - ✓ 7. Which of the following can be used for forecasting future events?
A) Data warehousing
B) Data mining
C) Big data
D) All of the options are true
 - ✗ 8. Which of the following is closely related to Business Intelligence?
A) Data warehousing
B) Data mining
C) Executive information systems
D) All of the options are true
 - ✗ 9. What is a data mart?
A) A sub-set of a data warehouse
B) A dedicated data-cleansing system
C) Enables loading data to data warehouse
D) All of the options are true
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10. Prescriptive analytics is the only one that is considered to help decision makers in which of the following:
- ☒ A) Determine the expected future
 - ☐ B) Explains the current situation
 - ☒ C) Recommends action to take
 - ☐ D) All of the options are true
11. Artificial intelligence is about which of the following:
- ☒ A) Understanding human language
 - ☐ B) Reducing efforts by humans
 - ☒ C) Reducing costs of performing work
 - ☐ D) All of the options are true
12. Which of the following is an example of assisted intelligence:
- ☒ A) Healthcare diagnosis
 - ☐ B) Self-driving cars
 - ☐ C) Cybercrime fighting
 - ☐ D) All of the options are true
13. What is one of the main problems of analytics:
- ☒ A) It uses mathematical modeling
 - ☒ B) Used data may not be accurate
 - ☐ C) It uses statistical analysis
 - ☐ D) All of the options are true
14. One of the main AI technologies is:
- ☒ A) Robotics
 - ☐ B) Voice recognition
 - ☐ C) Intelligent agents
 - ☒ D) All of the options are true
15. Which of the following is best known for recommending products?
- ☒ A) Robotics
 - ☐ B) Natural language processing
 - ☒ C) Intelligent agents
 - ☐ D) All of the options are true
16. Which of the following may be used for retail shelf analysis?
- ☒ A) Robotics
 - ☐ B) Machine and computer vision
 - ☐ C) Video analytics
 - ☒ D) All of the options are true
17. Natural language processing is mainly used for?
- ☒ A) Understanding written text
 - ☐ B) Understanding speech
 - ☐ C) Generating voice responses
 - ☒ D) All of the options are true
18. A main type of AI system where extracted knowledge of people can be saved?
- ☒ A) Expert system
 - ☐ B) Deep learning
 - ☐ C) Computer vision
 - ☒ D) All of the options are true
19. A main advantage of using AI in Human Resources:
- ☒ A) Hiring the right persons
 - ☐ B) Remote access to HR data
 - ☐ C) Easily applying for vacation days
 - ☐ D) All of the options are true
20. A main advantage of using AI in marketing:
- ☒ A) Predictive pricing of products
 - ☐ B) Improved search engine results
 - ☐ C) Targeting ad to the right people
 - ☒ D) All of the options are true

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- ✓ Data mining is associated with which of the following?
A) Statistics
B) Management Science
C) Artificial Intelligence
D) All of the options are true ✓
 - ✓ Which of the following is NOT one of the other known names for data mining?
A) Knowledge discovery
B) Data dredging
C) Knowledge understanding ✓
D) Information harvesting
 - ✓ How did data mining help the Miami Dade police department?
A) Predict areas with potential increase in crime.
B) Deal with shortage in funding.
C) Solve previously unsolved crimes. ✓
D) All options are true. ✓
 - ✓ Clustering is a data mining method which falls under which main data mining task?
A) Prediction
B) Association
C) Segmentation ✓
D) None of the above is true
 - ✗ Sequence analysis is a data mining method which falls under which main data mining task?
A) Prediction ✓
B) Association ✓
C) Segmentation
D) None of the above is true
ANS: B
 - ✓ Supervised learning is used with which data mining methods:
A) Regression. ✓
B) Link analysis.
C) Clustering
D) All options are true
 - ✓ Which of the following is a possible application of data mining?
A) Improve customer retention
B) Maximize customer value
C) Predict machine failure
D) All options are true ✓
 - ✗ 8. Deciding on what questions we want to answer when planning to use data mining is conducted during which step of the data mining process?
A) Data understanding
B) Data preparation
C) Business understanding ✓
D) Model Building
 - ✓ In the SEMMA data mining process, which is the last step in the process?
A) Deployment
B) Explore
C) Assess ✓
D) Modify
 - ✓ 10. Recursively dividing a training set until each division consists entirely or primarily of examples from one class is conducted by which type of popular algorithm?
A) Decision tree analysis ✓
B) K-means clustering
C) Logistic regression
D) Apriori algorithm

- ✓ 11. An algorithm which is used for market basket analysis is called:
A) Decision tree analysis C) Logistic regression
B) K-means clustering D) Apriori algorithm
- ✓ 12. Which of the following is NOT a source(s) of data for data mining:
A) Social networks data. C) Company data bases.
B) Company website log files. D) All options are important sources. —
- ✓ 13. When using the K-means clustering algorithm, what is the value of K?
A) Depends on number of clusters we would like to create.
B) Depends on the number of attributes that we use as inputs.
C) Depends on the graph we use: 2 or 3 dimensional.
D) Always 5.
- ✓ 14. When it comes to types of learning in a data mining model, supervised learning involves which of the following:
A) Providing only output values to the model.
B) Providing both input and output values to the model.
C) Providing only input values to the model.
D) None of the options is true.
- ✓ 15. Which data mining method is used to discover relationships between groups of websites:
A) Link analysis. C) Market-basket.
B) Sequence analysis. D) Time series.
- ✓ 16. In the KDD data mining process the first phase is:
A) Data Understanding C) Data Selection
B) Data Cleaning D) Data Transformation
- ✓ 17. Which of the following is an example of nominal data:
A) High, middle, low.
B) A grade, B grade, C grade
C) 0, 50, 100.
D) Pen, pencil, marker.
- ✓ 18. Which of the following is used to measure the accuracy level of prediction method?
A) Single split.
B) K-fold cross-validation.
C) Confusion matrix
D) None of the options is true.
- ✓ 19. In single test estimation methodology, what percent of the data is used for testing the model:
A) About 50%. C) About 30%.
B) About 25%. D) About 70%.
- ✓ 20. If $k=4$ in a K-fold cross-validation methodology, what percent of the data is used as training data in each run:
A) 40%. C) 75%.
B) 25%. D) 4%.