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Indicate the answer choice that best completes the statement or answers the question.

1. _____ refers to a programming model used within Hadoop that performs the two major steps for which it is named: the map step and the reduce step.
 - a. MapReduce
 - b. Internet of Things (IoT)
 - c. Advanced analytics
 - d. Optimization model
2. _____ assigns values to outcomes based on the decision maker's attitude toward risk, loss, and other factors.
 - a. Simulation optimization
 - b. Utility theory
 - c. Optimization model
 - d. Data dashboard
3. Optimization models can be used to _____.
 - a. assess the risk of investment portfolios
 - b. forecast future financial performance
 - c. successfully manage commercial real estate risk
 - d. decide on how to invest cash received from insurance policies
4. Corporate-level managers use _____ to summarize sales by region, current inventory levels, and other company-wide metrics all in a single screen.
 - a. simulations
 - b. crosstabulation
 - c. data dashboards
 - d. tables
5. Which of the following best exemplifies big data?
 - a. Five hundred Facebook users upload one thousand pictures per day.
 - b. Cellphone owners around the world generate vast amounts of data by calling, texting, tweeting, and browsing the Web on a daily basis.
 - c. A local grocery store collects data from those that scan their loyalty card.
 - d. A pharmacy keeps track of customer purchases to send its customers coupons.
6. A _____ decision involves higher-level issues and is concerned with the overall direction of the organization, defining the overarching goals and aspirations for the organization's future.
 - a. strategic
 - b. tactical
 - c. intuitive
 - d. operational
7. Picks and Axes Inc. is an Internet-based retail seller of hiking boots and mountaineering gear. The company decides to open retail stores across the major areas of the city to help complement its Internet-based strategy. This activity would be categorized as a(n) _____.
 - a. tactical decision
 - b. operational decision
 - c. strategic decision
 - d. financial decision
8. A retail store owner offers a discount on product A and predicts that the customers would purchase products B and C in

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addition to product A. Identify the technique used to make such a prediction.

- a. Data query
- b. Simulation
- c. Data mining
- d. Data dashboards

9. _____ is an open-source programming environment that supports big data processing through distributed storage and distributed processing on clusters of computers.

- a. Hadoop
- b. Excel
- c. Java
- d. MapReduce

10. Data dashboards are a type of _____ analytics.

- a. predictive
- b. descriptive
- c. prescriptive
- d. decision

11. Which of the following sources of big data is not publicly available?

- a. Twitter
- b. Weather data
- c. Medical records
- d. Sports records

12. A forecast that helps direct police officers to areas where crimes are likely to occur based on past data is an example of _____.

- a. predictive analytics
- b. decision analysis
- c. prescriptive analytics
- d. descriptive analytics

13. When a decision maker is faced with several alternatives and an uncertain set of future events, s/he uses _____ to develop an optimal strategy.

- a. utility theory
- b. predictive analytics
- c. data mining
- d. decision analysis

14. _____ refers to the technology that allows data, collected from sensors in all types of machines, to be sent over the Internet to repositories where it can be stored and analyzed.

- a. Internet of Things (IoT)
- b. MapReduce
- c. Hadoop
- d. Advanced analytics

15. _____ is the most critical step of the decision-making process.

- a. Choosing an alternative
- b. Identifying and defining the problem
- c. Evaluating the alternatives
- d. Determining the set of alternatives

16. Data-driven decision making tends to decrease a firm's _____.

- a. market value
- b. productivity
- c. risk
- d. profit

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17. _____ analytics are techniques that use models, constructed from past data, to predict the future or to ascertain the impact of one variable on another.

- a. Predictive
- b. Descriptive
- c. Simulation
- d. Prescriptive

18. A better understanding of consumer behavior through analytics directly leads to _____.

- a. more profits
- b. better pricing strategies
- c. reduced advertising costs
- d. reduced risk

19. Tactical decisions are concerned with _____.

- a. the day-to-day activities of the organization
- b. the goals and plans of the organization
- c. the domain of operations managers, who are close to the customer
- d. how the organization should achieve the goals and objectives set by its strategy

20. _____ analytics use techniques that take input data and yield a best course of action.

- a. Prescriptive
- b. Simulation
- c. Strategic
- d. Operational

21. A light bulb manufacturer uses descriptive analytics _____.

- a. to present supply chain to managers visually.
- b. to achieve efficiency in delivery of goods.
- c. to schedule staff and vehicle for delivery.
- d. to plan capacity utilization by incorporating the inherent uncertainty in commodities pricing.

22. In the spectrum of business analytics, which is the most complex?

- a. Descriptive
- b. Predictive
- c. Prescriptive
- d. Operational

23. The extraction of information on the number of shipments, how much was included in each shipment, the date each shipment was sent, and so on from the manufacturing plant's database exemplifies _____

- a. spreadsheet models
- b. data dashboards
- c. data mining
- d. data queries

24. _____ are used in the pharmaceutical industry to assess the risk of introducing a new drug.

- a. Data dashboards
- b. Charts
- c. Spreadsheet models
- d. Simulations

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25. In order to manage an organization's human resource activities, such as hiring employees, tracking, and influencing employee retention, HR personnel use _____.

- a. descriptive and predictive analytics.
- b. descriptive and prescriptive analytics.
- c. predictive and prescriptive analytics.
- d. predictive analytics.

26. Advanced analytics generally refers to _____.

- a. descriptive and prescriptive analytics
- b. simulation
- c. predictive and prescriptive analytics
- d. decision analysis

27. Which of the following analytical techniques helps us arrive at the best decision?

- a. Predictive analytics
- b. Data mining
- c. Prescriptive analytics
- d. Descriptive analytics

28. Which one of the following is used in predictive analytics?

- a. Data dashboard
- b. Linear regression
- c. Data visualization
- d. Optimization model

29. In the financial sector, _____ are used to construct financial instruments such as derivatives.

- a. descriptive and prescriptive models
- b. predictive models
- c. descriptive models
- d. prescriptive models

30. Utility theory is the study of the _____ or relative desirability of a particular outcome that reflects the decision maker's attitude toward a collection of factors, such as profit, loss, and risk.

- a. total worth
- b. total cost
- c. feasibility
- d. financial wellness

31. Which of the following is not an approach to making decisions?

- a. Tradition
- b. Rules of thumb
- c. Intuition
- d. Guess and check

32. A _____ decision is concerned with how the organization should achieve the goals and objectives set by its strategy.

- a. tactical
- b. strategic
- c. intuitive
- d. operational

33. Simulation optimization helps _____.

- a. in identifying the constraints of the situation
- b. to find good decisions in highly complex and highly uncertain settings
- c. in assigning values to outcomes
- d. to model certainty using optimization techniques

34. The U.S. Internal Revenue Service uses _____ to identify patterns that distinguish questionable annual personal

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income tax filings.

- | | |
|-------------------|---------------------------|
| a. utility theory | b. prescriptive analytics |
| c. data mining | d. decision analysis |

35. The decisions concerning an organization's goals and future plans are called _____.

- | | |
|------------------------|--------------------------|
| a. financial decisions | b. tactical decisions |
| c. strategic decisions | d. operational decisions |

36. Data that are too large or too complex to be handled by standard data-processing techniques and typical desktop software are called _____.

37. A data _____ is a request to obtain information with certain characteristics from a database.

38. A mathematical model that gives the best decision, subject to the situation's constraints, is an a(n) _____.

39. Business analytics is the _____ process of transforming data into insight for making better decisions.

40. A decision concerned with how the organization is run from day to day is known as a(n) _____.

41. Veracity has to do with how much _____ is in the data.

42. An increase in data _____ would help to protect stored data from destructive forces or unauthorized users.

43. A dashboard is a collection of tables, charts, and maps to help management _____ selected aspects of the company's performance.

44. The use of analytical techniques for better understanding patterns and relationships that exist in large data sets is _____.

45. _____ are analytical tools that describe what has happened.

46. The use of probability and statistics to construct a computer model to study the impact of uncertainty on the decision at hand is called _____.

47. A data _____ is trained in both computer science and statistics and knows how to effectively process and analyze large amounts of data.

48. _____ may be used to develop an optimal strategy when a decision maker is faced with several decision alternatives and an uncertain set of future events.

49. _____ analytics is the analysis of online activity, such as visits to websites or social media.

50. One of the 4 Vs of big data that refers to uncertainty due to data inconsistency and incompleteness, ambiguities, latency, deception, and model approximations is _____.

51. Predictive and prescriptive analytics can also be referred to as _____.

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52. What are the four V's of big data?

53. With the rise of big data, increased attention is being paid to legal and ethical issues. INFORMS has established certain guidelines. Briefly discuss.

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Answer Key

1. a
2. b
3. d
4. c
5. b
6. a
7. c
8. c
9. a
10. b
11. c
12. a
13. d
14. a
15. b
16. c
17. a
18. b
19. d
20. a
21. a
22. c
23. d
24. d

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- 25. a
- 26. c
- 27. c
- 28. b
- 29. b
- 30. a
- 31. d
- 32. a
- 33. b
- 34. c
- 35. c
- 36. big data
- 37. query
- 38. optimization model
- 39. scientific
- 40. operational decision
- 41. uncertainty
- 42. security
- 43. monitor
- 44. data mining
- 45. Descriptive analytics
- 46. simulation
- 47. scientist
- 48. Decision analysis
- 49. Web

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50. veracity

51. advanced analytics

52. Volume, Velocity, Variety, Veracity

53. Answers may vary by student.