Test Bank for Analytics Data Science and Artificial Intelligence 11th Sharda

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Analytics, Data Science, & Artificial Intelligence, 11e **(Sharda)**
Chapter 2 Artificial Intelligence Concepts, Drivers, Major Technologies, and Business Applications

1) The INRIX case illustrates to us how the collection and analysis of a selected subset of information can improve vehicles' mobility in large cities.
Answer: FALSE
Diff: 2 Page Ref: 76

2) Many experts agree that AI is concerned with two basic ideas: (1) the study of human thought processes (to understand what intelligence is) and (2) the representation and duplication of those thought processes in machines.
Answer: TRUE
Diff: 2 Page Ref: 76

3) A well-known early application of artificial intelligence was the chess program hosted at IBM's supercomputer (Deep Blue).
Answer: TRUE
Diff: 2 Page Ref: 76

4) Most of the existing AI applications, which are between assisted and autonomous, are referred to as directed intelligence.
Answer: FALSE
Diff: 1 Page Ref: 82

5) The Garner Test is a well-known attempt to measure the intelligence level of AI machines.
Answer: FALSE
Diff: 3 Page Ref: 85

6) AI machines have demonstrated superiority over humans in playing complex games such as chess.
Answer: TRUE
Diff: 2 Page Ref: 84

7) Intelligent agents do not have the ability to learn by using and expanding the knowledge embedded in them.
Answer: FALSE
Diff: 3 Page Ref: 87

8) Intelligent agents are effective tools for overcoming the most critical burden of the Internet information overload and making computers more viable decision support tools.
Answer: TRUE
Diff: 2 Page Ref: 87

9) Routine decisions are more likely to be fully automated, especially if they are simple.
Answer: TRUE
Diff: 2 Page Ref: 96

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10) Beginning in 2015, researchers recognized the opportunity of using AI for supporting the decision-making process and for completely automating decision making.
Answer: FALSE
Diff: 2 Page Ref: 95

11) The process of automated decision-making starts with knowledge refinement.
Answer: FALSE
Diff: 3 Page Ref: 94

12) Accountants use of AI, including bots and professional routines, has increased.
Answer: TRUE
Diff: 2 Page Ref: 99-100

13) Advancements in AI are improving several areas in the insurance industry, mostly in issuing policies and handling claims.
Answer: TRUE
Diff: 2 Page Ref: 103

14) AI in banking help banks improve only their back-office operations.
Answer: FALSE
Diff: 2 Page Ref: 102

15) After the initial hire, training and retraining employees is generally unimportant.
Answer: FALSE
Diff: 1 Page Ref: 105

16) Wislow sees the use of AI as a continuation of automation that supports HRM and keeps changing it.
Answer: TRUE
Diff: 1 Page Ref: 105

17) The use of chatbots in HRM is increasing rapidly. Their ability to provide current information to employees anytime is a major reason.
Answer: TRUE
Diff: 2 Page Ref: 106

18) AI can help in predicting the impact of different customer service options using ad targeting.
Answer: FALSE
Diff: 2 Page Ref: 107

19) NLP can be used for generating user documentation.
Answer: TRUE
Diff: 2 Page Ref: 108

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20) AI can be used to mimic the experience of in-store sales people.
Answer: TRUE
Diff: 2 Page Ref: 110

21) Which of the following is not listed in Gartner's 2016 and 2017 Hype Cycles for Emerging Technologies?
A) natural language questions and answering
B) CRM systems
C) virtual personal assistants
D) IoT platforms
Answer: B
Diff: 3 Page Ref: 76

22) Which of the following is not a foundation of AI?
A) neurology
B) IoT
C) intelligent agents
D) statistics
Answer: C
Diff: 3 Page Ref: 77

23) Which of the following is not a technology or application of AI?
A) speech understanding
B) linguistics
C) machine learning
D) smart homes
Answer: B
Diff: 3 Page Ref: 77

24) Which of the following is not a limitation of AIW?
A) lack human touch and feel
B) lack attention to non-task surroundings
C) AI optimizes knowledge work
D) can be programmed to create destruction
Answer: C
Diff: 2 Page Ref: 81

25) In which area below does AI not have an advantage over human?
A) computational speed
B) consistency
C) emotional understanding
D) durability
Answer: C
Diff: 2 Page Ref: 84

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26) Which of the following universities is not actively studying the IQ of AI?
A) University of Illinois
B) Massachusetts Institute of Technology
C) Stanford University
D) Portland University
Answer: D
Diff: 2 Page Ref: 85

27) Which of the following strives to have computers produce ordinary spoken language so that people can understand the computers more easily?
A) natural language processing
B) natural language generation
C) natural language understanding
D) intelligent agents
Answer: B
Diff: 3 Page Ref: 92

28) For many intelligent systems to work, it is necessary for them to have knowledge. The process of acquiring this knowledge is referred to as:
A) natural intelligence processing.
B) deep learning.
C) knowledge acquisition.
D) knowledge representation.
Answer: C
Diff: 3 Page Ref: 93

29) This type of algorithm is necessary for making large-scale decisions, but may be difficult due to difficulties in measuring costs, risks, and benefits.
A) problem identification
B) decision nature identification
C) method of least squares
D) cost-benefit and risk analyses
Answer: D
Diff: 3 Page Ref: 96

30) Which of the following is not a prediction of the effect of AI on accountants?
A) AI and analytics will automate many routine tasks done today by accountants
B) many accountants may lose their job
C) accountants will need to manage AI-based accounting systems
D) AI will drive changes in the tax code
Answer: D
Diff: 3 Page Ref: 101

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31) Which of the following is not a key finding related to the use of AI in banking?
A) Technologies help banks improve both their front-office and back-office operations.
B) Growth of AI applications in banking has slowed.
C) Facial recognition is used for safer online banking.
D) Advanced analytics helps customers with investment decision.
Answer: B
Diff: 3 Page Ref: 102

32) What is a Salesforce product that is an AI set of technologies that is used for enhancing customer interactions and supporting sales?
A) Mendel
B) Hawkings
C) Turing
D) Einstein
Answer: D
Diff: 3 Page Ref: 108

33) When comparing artificial intelligence versus human intelligence how would cost be compared?
A) usually low and declining/may be high and increasing
B) usually low and declining/may be high but decreasing
C) usually high and increasing/may be high but decreasing
D) usually high and increasing/ may be high and increasing
Answer: A
Diff: 3 Page Ref: 84

34) When comparing artificial intelligence versus human intelligence how would form be compared?
A) numbers/signals
B) numbers/pictograms
C) signals/numbers
D) signals/pictograms
Answer: A
Diff: 3 Page Ref: 84

35) Robots can help with online shopping by collecting shopping information, matching buyers and products, and conducting price and capability comparisons. These are known as:
A) shopbots.
B) EC droids.
C) Turing AI toys.
D) CRM.
Answer: A
Diff: 2 Page Ref: 92

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36) What is the recognition and understanding of spoken languages by a computer?
A) contextual analysis
B) synthetic language processing
C) speech understanding
D) accent obfuscation
Answer: C
Diff: 2 Page Ref: 92

37) What refers to the integration of digital information with the user environment in real time?
A) natural language processing
B) virtual reality
C) augmented reality
D) deep learning
Answer: C
Diff: 2 Page Ref: 95

38) What is the application of knowledge derived from cognitive science (the study of the human brain) and computer science theories in order to simulate the human thought processes so that computers can exhibit and/or support decision-making and problem-solving capabilities?
A) natural language processing
B) virtual reality
C) augmented reality
D) cognitive computing
Answer: D
Diff: 2 Page Ref: 94

39) This activity can be complex because it is necessary to make sure what knowledge is needed. It must fit the desired system.
A) knowledge identification
B) knowledge acquisition
C) knowledge representation
D) knowledge reasoning
Answer: B
Diff: 2 Page Ref: 93

40) "The capabilities of a machine to imitate intelligent human behavior" is the definition of:
A) knowledge acquisition.
B) deep learning.
C) the Turing test.
D) artificial intelligence.
Answer: D
Diff: 3 Page Ref: 76

41) One of the goals of AI is to _____ and properly react to changes in the environment that influence specific business processes and operations.
Answer: perceive
Diff: 1 Page Ref: 78

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42) One of the benefits of AI is that AI machines can work _____ or be assistants to humans.
Answer: autonomously
Diff: 2 Page Ref: 79

43) The _____ is a people-made machine that is desired to be as intelligent, creative, and self-aware as humans.
Answer: artificial brain
Diff: 2 Page Ref: 82

44) _____ is equivalent mostly to weak AI, which works only in narrow domains.
Answer: Assisted intelligence
Diff: 2 Page Ref: 81

45) _____ can be considered to be an umbrella term and is usually measured by an IQ test.
Answer: Intelligence
Diff: 2 Page Ref: 83

46) A test known as the _____ Test determines whether a computer exhibits intelligent behavior.
Answer: Turing
Diff: 1 Page Ref: 85

47) An _____ is an autonomous, relatively small computer software program that observes and acts upon changes in its environment by running specific tasks autonomously.
Answer: intelligent agent (IA)
Diff: 2 Page Ref: 87

48) At this time, AI systems do not have the same learning capabilities that humans have; rather, they have simplistic _____.
Answer: machine learning
Diff: 2 Page Ref: 88

49) Robots that match buyers and products and conduct price and capability comparisons are known as _____.
Answer: shopbots
Diff: 2 Page Ref: 92

50) _____ is a technology that gives users the ability to communicate with a computer in their native language.
Answer: Natural language processing (NLP)
Diff: 2 Page Ref: 92

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51) _____ computing is the application of knowledge derived from cognitive science (the study of the human brain) and computer science theories in order to simulate the human thought processes (an AI objective) so that computers can exhibit and/or support decision-making and problem-solving capabilities.
Answer: Cognitive
Diff: 3 Page Ref: 94

52) AI can drive some types of decisions many times _____ and more consistently than humans can.
Answer: faster
Diff: 2 Page Ref: 95

53) The report "AI and the Future of Accountancy" from ICAEW (2017) points to the use of machine
learning for detecting _____ and predicting fraudulent activities.
Answer: fraud
Diff: 3 Page Ref: 101

54) The major objectives of the AI support are to improve analysis results and enhance _____ experience.
Answer: customer
Diff: 2 Page Ref: 103

55) _____ help banks identify and block fraudulent activities including money laundering.
Answer: AI algorithms
Diff: 1 Page Ref: 102

56) The use of _____ in HRM is increasing rapidly due to their ability to provide current information to employees anytime is a major reason.
Answer: chatbots
Diff: 2 Page Ref: 106

57) Compared to other business areas, there are probably more applications of AI in _____ and advertising.
Answer: marketing
Diff: 2 Page Ref: 107

58) Using _____ retailers can learn about customers' needs and provide targeted advertisements and product recommendations directly.
Answer: social semantics
Diff: 2 Page Ref: 107

59) Salesforce _____ is an AI set of technologies that is used for enhancing customer interactions and supporting sales.
Answer: Einstein
Diff: 2 Page Ref: 108

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60) Discuss the drivers of AI.
Answer: The use of AI has been driven by the following forces:
• People's interest in smart machines and artificial brains
• The low cost of AI applications versus the high cost of manual labor (doing the same work)
• The desire of large tech companies to capture competitive advantage and market share of the AI market and their willingness to invest billions of dollars in AI
• The pressure on management to increase productivity and speed
• The availability of quality data contributing to the progress of AI
• The increasing functionalities and reduced cost of computers in general
• The development of new technologies, particularly cloud computing
Diff: 2 Page Ref: 79

61) Describe the Turing test.
Answer: According to this test, a computer can be considered smart only when a human interviewer asking the same questions to both an unseen human and an unseen computer cannot determine which is which. This test is limited to a question-and-answer (Q&A) mode. To pass the Turing Test, a computer needs to be able to understand a human language (NLP), to possess human intelligence (e.g., have a knowledge base), to reason using its stored knowledge, and to be able to learn from its experiences (machine learning).
Diff: 3 Page Ref: 85

62) List and discuss two new emerging AI technologies addressed in the chapter.
Answer: Several new AI technologies are emerging. Here are a few examples:
• Effective computing. These technologies detect the emotional conditions of people and suggest how to deal with discovered problems
• Biometric analysis. These technologies can verify an identity based on unique biological traits that are compared to stored ones (e.g., facial recognition)
Diff: 2 Page Ref: 94

63) Discuss some issues and factors that would drive the decision to successfully use AI.
Answer: Several issues determine the justification of using AI and its chance of success. These include:
• The nature of the decision. For example, routine decisions are more likely to be fully automated, especially if they are simple.
• The method of support, what technology(ies) is (are) used. Initially, automated decision supports were rule-based. Practically, expert systems were created to generate solutions to specific decision situations in well-defined domains. Another popular technology mentioned earlier was "recommender," which appeared with e-commerce in the 1990s. Today, there is an increased use of machine learning and deep learning. A related technology is that of pattern recognition. Today, attention is also given to biometric types of recognition.
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64) According to ICAEW (2017), what are the advantages of AI in accounting?
Answer: The report sees the advantage of AI by:
• Providing cheaper and better data to support decision making and solve accounting problems
• Generating insight from data analysis
• Freeing time of accountants to concentrate on problem solving and decision making
Diff: 2 Page Ref: 101

65) List the ways that Savar (2017) believes AI will transform HRM, especially in recruiting.
Answer:
1. reducing human bias
2. increasing efficiency, productivity, and insight in evaluating candidates
3. improving relationships with current employees
Diff: 2 Page Ref: 105

66) List the ways Meister (2017) suggests introducing AI to HRM operations.
Answer:
1. Experiment with a variety of chatbots.
2. Develop a team approach involving other functional areas.
3. Properly plan a technology roadmap for both the short and long term, including shared vision with other functional areas.
4. Identify new job roles and modifications in existing job roles in the transformed environment.
5. Train and educate the HRM team to understand AI and gain expertise in it.
Diff: 2 Page Ref: 106

67) Discuss how conversational bots can improve customer experience.
Answer: Gangwani (2016) lists the following ways to improve customers' experiences:
1. Use NLP for generating user documentation. This capability also improves the customer—machine dialogue.
2. Use visual categorization to organize images (for example, see IBM's Visual Recognition and Clarifai).
3. Provide personalized and segmented services by analyzing customer data. This includes improving shopping experience and CRM.
Diff: 2 Page Ref: 108

68) Describe how AI can be used in marketing to provide lead generation.
Answer: As seen in the case of Einstein, AI can help generate sales leads by analyzing customers' data. The program can generate predictions. Insights can be generated by intelligent analytics.
Diff: 1 Page Ref: 110

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69) Describe the model for the use of intelligent technologies in manufacturing companies.
Answer: Bollard, et al. (2017) proposed a five-component model for manufacturing companies to use intelligent
technologies. This model includes:
• Streamlining processes, including minimizing waste, redesigning processes, and using business process management (BPM)
• Outsourcing certain business processes, including going offshore
• Using intelligence in decision making by deploying AI and analytics
• Replacing human tasks with intelligent automation
• Digitizing customers′ experiences
Diff: 3 Page Ref: 77-111

70) Describe implementation model and why you feel it will be significant.
Answer: Student opinions, responses and justifications will vary.
Diff: 3 Page Ref: 77-111

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