

1. Which of the following is a main component of AI?

- a) Feature Engineering
- b) Data Visualization
- c) Database Management
- d) Network Security

Answer: a) Feature Engineering

Explanation: Feature engineering involves selecting, transforming, and extracting features from raw data to improve the performance of machine learning algorithms.

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2. Which technique is commonly used in AI for pattern recognition and classification tasks?

- a) Convolutional Neural Networks (CNN)
- b) SQL Queries
- c) Linear Regression
- d) Decision Trees

Answer: a) Convolutional Neural Networks (CNN)

Explanation: CNNs are a type of deep learning neural network specifically designed for processing structured grid-like data, such as images.

3. What is a primary application of AI in healthcare?

- a) Supply chain management
- b) Disease diagnosis
- c) Retail sales forecasting
- d) Weather prediction

Answer: b) Disease diagnosis

Explanation: AI techniques are widely used in healthcare for tasks such as disease diagnosis, patient monitoring, and personalized treatment recommendation.

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4. Which of the following is an advantage of AI technology?

- a) Limited scalability
- b) Emotional intelligence
- c) Error-prone decision-making
- d) Automation of repetitive tasks

Answer: d) Automation of repetitive tasks

Explanation: AI can automate repetitive tasks, leading to increased efficiency and

productivity.

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5. What is one of the goals of AI research and development?

- a) Achieving universal consciousness
- b) Creating ethical dilemmas
- c) Solving complex problems
- d) Limiting technological advancement

Answer: c) Solving complex problems

Explanation: One of the primary goals of AI is to develop systems capable of solving complex problems efficiently.

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6. How does programming a system with AI differ from programming a system without AI?

- a) AI systems require less computational resources
- b) AI systems do not require algorithms
- c) AI systems rely heavily on pre-defined rules
- d) AI systems can learn from data

Answer: d) AI systems can learn from data

Explanation: Unlike traditional systems, AI systems have the ability to learn and improve from data without being explicitly programmed for every scenario.

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7. What is a significant challenge in the development of AI technology?

- a) Lack of data
- b) Overly simplistic algorithms
- c) Slow computing hardware
- d) Limited internet connectivity

Answer: a) Lack of data

Explanation: Data scarcity or poor quality data can hinder the training and performance of AI models.

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8. Which programming languages are commonly used in AI development?

- a) Java and HTML
- b) Python and R
- c) C++ and Swift
- d) PHP and Ruby

Answer: b) Python and R

Explanation: Python and R are popular programming languages for AI development due to their simplicity, flexibility, and extensive libraries for machine learning and data analysis.

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9. Which algorithm is often used in AI for optimization problems?

- a) Support Vector Machines (SVM)
- b) K-means clustering
- c) Genetic algorithms
- d) Naive Bayes

Answer: c) Genetic algorithms

Explanation: Genetic algorithms are heuristic search algorithms inspired by the process of natural selection and genetics. They are commonly used to find optimal solutions to complex optimization and search problems.

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10. What is a notable future trend in AI technology?

- a) Decreased automation
- b) Reduced reliance on big data

- c) Increased emphasis on explainability
- d) Limited integration with other technologies

Answer: c) Increased emphasis on explainability

Explanation: As AI systems become more prevalent, there is a growing need for transparency and interpretability to understand how these systems make decisions and mitigate potential biases or errors.