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.

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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.