

Intro to Artificial Intelligence(AI)



CERTIFICATE OF ACHIEVEMENT

This certificate is proudly presented to

Rebafenyi Israel Mudau

> For: **Intro to Artificial Intelligence(AI)**

> With a score of: **40/50 (80%)**

> Date: **May 28, 2025**



CAPACITI

Report Summary

| | |
|----------------------------|-----------------------------------|
| Name | : Rebafenyi Israel Mudau |
| Your Score | : 40 out of 50 (80%) |
| Correct Answers | : 40 Questions |
| Incorrect Answers | : 10 Questions |
| Unanswered | : 0 Questions |
| Required Passing Grade (%) | : 70% |
| Time Taken | : 21 mins 11 secs |
| Date | : May 28, 2025 |
| Your Result | : Pass |
| Email | : rebafenyi.mudau@capaciti.org.za |

Your Answers

Correct

Q1) Which programming language is commonly used for AI development?

- A. Java
- B. C++
- C. Python (Your Answer)(Correct)
- D. Ruby

Incorrect

Q2) What is the term used to describe the process of training data to improve AI performance?

- A. Data Wrangling
- B. Model Evaluation (Your Answer)(Incorrect)
- C. Feature Extraction
- D. Fine-tuning (Correct)

Correct

Q3) Which programming language is commonly used in AI development?

- A. HTML
- B. Java
- C. Python (Your Answer)(Correct)
- D. C++

Explanation: Python is commonly used in AI development due to its simplicity, readability, and extensive libraries that support AI algorithms.

Incorrect

Q4) Which branch of AI focuses on teaching machines to understand and process human language?

- A. Robotics
- B. Neuro-Linguistic Programming (Your Answer)(Incorrect)

- C. Natural Language Processing (Correct)
- D. Genetic Algorithms

Explanation: Natural Language Processing is the branch of AI that focuses on teaching machines to understand and process human language, enabling them to communicate effectively with humans.

Incorrect

- Q5) What is the term used for the process of AI systems improving performance beyond initial training?
- A. Model testing (Your Answer)(Incorrect)
 - B. Hyperparameter tuning
 - C. Transfer learning (Correct)
 - D. Neural network pruning

Correct

- Q6) What is the role of AI in autonomous vehicles?
- A. To increase traffic congestion
 - B. To reduce accidents and improve road safety (Your Answer)(Correct)
 - C. To eliminate the need for roads
 - D. To promote reckless driving

Explanation: The role of AI in autonomous vehicles is to reduce accidents and improve road safety by enabling vehicles to make real-time decisions and navigate without human intervention.

Correct

- Q7) What type of learning does a neural network use?
- A. Supervised Learning
 - B. Unsupervised Learning
 - C. Reinforcement Learning
 - D. All of the above (Your Answer)(Correct)

Incorrect

- Q8) Which of the following is NOT a potential ethical concern related to AI?

- A. Loss of Jobs (Your Answer)(Incorrect)
- B. Bias in AI systems
- C. Increased productivity (Correct)
- D. Privacy invasion

Correct

Q9) Which AI technique involves making decisions based on data analysis and statistical probability?

- A. Expert Systems
- B. Machine Learning (Your Answer)(Correct)
- C. Natural Language Processing
- D. Computer Vision

Explanation:Machine Learning involves making decisions based on data analysis and statistical probability, allowing machines to learn from the data provided.

Incorrect

Q10) What is the key difference between Strong AI and Weak AI?

- A. Strength of processing power
- B. Ability to perform human-like tasks
- C. General intelligence vs. narrow intelligence (Correct)
- D. Size of the neural network (Your Answer)(Incorrect)

Correct

Q11) What is the goal of AI?

- A. To replace humans
- B. To replicate human intelligence
- C. To assist humans in various tasks (Your Answer)(Correct)
- D. To control humans

Explanation:The goal of AI is to assist humans in various tasks by automating processes, making decisions, and solving problems more efficiently.

Correct

Q12) What is the term used for the ability of AI systems to learn from data?

- A. Data Mining
- B. Pattern Recognition
- C. Machine Learning (Your Answer)(Correct)
- D. Algorithm Optimization

Correct

Q13) Which company is known for developing the AI assistant 'Siri'?

- A. Google
- B. Amazon
- C. Apple (Your Answer)(Correct)
- D. Microsoft

Correct

Q14) What is the goal of AI?

- A. To replace humans
- B. To create autonomous machines
- C. To simulate human intelligence in machines (Your Answer)(Correct)
- D. To eliminate creativity

Explanation: The goal of AI is to simulate human intelligence in machines, enabling them to perform tasks that typically require human intelligence.

Correct

Q15) Which of the following AI applications is used in financial services for fraud detection and risk management?

- A. Computer Vision
- B. Speech Recognition
- C. Natural Language Processing
- D. Machine Learning (Your Answer)(Correct)

Explanation: Machine Learning is used in financial services for fraud detection and risk management by analyzing transactional data and identifying patterns that indicate fraudulent activities or potential risks.

Correct

Q16) What is the process of allowing AI systems to independently find patterns in data?

- A. Supervised Learning
- B. Unsupervised Learning (Your Answer)(Correct)
- C. Reinforcement Learning
- D. Deep Learning

Correct

Q17) Which of the following is not a subset of AI?

- A. Machine Learning
- B. Natural Language Processing
- C. Virtual Reality (Your Answer)(Correct)
- D. Deep Learning

Explanation: Virtual Reality is not a subset of AI, it is a separate technology used for creating immersive experiences.

Incorrect

Q18) Which AI technique is commonly used for decision-making processes?

- A. Genetic algorithms (Your Answer)(Incorrect)
- B. Fuzzy logic
- C. Expert systems (Correct)
- D. Simulated annealing

Correct

Q19) What is the goal of AI?

- A. To replace humans in all tasks
- B. To replicate human intelligence in machines (Your Answer)(Correct)
- C. To eliminate the need for computers
- D. To create machines that can think on their own

Explanation: The goal of AI is to replicate human intelligence in machines, allowing them to perform tasks that would typically require human intelligence.

Correct

Q20) What is the difference between narrow AI and general AI?

- A. Narrow AI is limited to specific tasks, while general AI has human-like intelligence. (Your Answer)(Correct)
- B. Narrow AI is only used in the medical field, while general AI is used in all industries.
- C. Narrow AI is more expensive than general AI.
- D. Narrow AI is hardware-based, while general AI is software-based.

Explanation: Narrow AI is designed for specific tasks and is not capable of general intelligence, while general AI aims to possess human-like intelligence and can perform a wide range of tasks.

Incorrect

Q21) What is the field of study that combines AI with robotics?

- A. Cognitive Computing (Correct)
- B. Cybernetics
- C. Machine Intelligence (Your Answer)(Incorrect)
- D. Robotic Process Automation

Correct

Q22) Which programming language is commonly used for AI development?

- A. Python (Your Answer)(Correct)
- B. JavaScript
- C. C++
- D. Ruby

Explanation: Python is commonly used for AI development due to its simplicity, readability, and vast library support for AI algorithms.

Correct

Q23) What is the Turing Test?

- A. A test to evaluate AI's ability to exhibit intelligent behavior indistinguishable from a human (Your Answer)(Correct)
- B. A test to evaluate AI's speed in processing data
- C. A test to evaluate AI's memory capacity
- D. A test to evaluate AI's hardware performance

Explanation: The Turing Test is a test of a machine's ability to exhibit intelligent behavior equivalent to, or indistinguishable from, that of a human.

Correct

Q24) What is the primary goal of AI?

- A. To create intelligent robots
- B. To mimic human cognitive functions (Your Answer)(Correct)
- C. To replace human workers
- D. To make machines more powerful than humans

Correct

Q25) Which AI technique is based on the idea of simulating the way the human brain works?

- A. Expert Systems
- B. Decision Trees
- C. Artificial Neural Networks (Your Answer)(Correct)
- D. Support Vector Machines

Explanation: Artificial Neural Networks are based on the idea of simulating the way the human brain works by using interconnected nodes to process information and learn patterns.

Correct

Q26) What does AI stand for?

- A. Artificial Internet
- B. Artificial Invention
- C. Artificial Intelligence (Your Answer)(Correct)
- D. Automated Innovation

Explanation: AI stands for Artificial Intelligence, which is the simulation of human intelligence in machines.

Correct

Q27) Which AI application is designed to detect patterns in large sets of data?

- A. Computer Vision

- B. Natural Language Processing
- C. Speech Recognition
- D. Data Mining (Your Answer)(Correct)

Explanation: Data Mining is an AI application designed to detect patterns and insights in large sets of data by using algorithms and statistical techniques.

Incorrect

Q28) Which company developed the first AI program?

- A. Microsoft
- B. Google (Your Answer)(Incorrect)
- C. IBM (Correct)
- D. Facebook

Explanation: IBM developed the first AI program called Deep Blue, which defeated world chess champion Garry Kasparov in 1997.

Incorrect

Q29) Which famous AI system defeated the world champion in the game of chess?

- A. Watson
- B. Deep Blue (Correct)
- C. AlphaGo (Your Answer)(Incorrect)
- D. Cortana

Explanation: Deep Blue, developed by IBM, defeated the world champion Garry Kasparov in a game of chess in 1997, showcasing the capabilities of AI in strategic decision-making and problem-solving.

Correct

Q30) Which of the following is NOT a subfield of AI?

- A. Robotics
- B. Neuroscience (Your Answer)(Correct)
- C. Machine Learning
- D. Natural Language Processing

Explanation: Neuroscience is not a subfield of AI; it is a scientific discipline that studies the nervous system and brain.

Correct

Q31) Which AI technology is used to analyze and interpret complex data sets?

- A. Natural Language Processing
- B. Computer Vision
- C. Speech Recognition
- D. All of the above (Your Answer)(Correct)

Correct

Q32) Which company developed the AI-powered voice assistant Siri?

- A. Google
- B. Amazon
- C. Microsoft
- D. Apple (Your Answer)(Correct)

Explanation: Apple developed the AI-powered voice assistant Siri, which is known for its voice recognition and natural language processing capabilities.

Correct

Q33) What does AI stand for?

- A. Artificial Intelligence (Your Answer)(Correct)
- B. Automation and Innovation
- C. Advanced Integration
- D. Association of Individuals

Explanation: AI stands for Artificial Intelligence, which refers to the simulation of human intelligence processes by machines.

Correct

Q34) Which of the following is not a subfield of AI?

- A. Machine Learning
- B. Robotics
- C. Biotechnology (Your Answer)(Correct)
- D. Natural Language Processing

Correct

Q35) Which of the following is a key advantage of AI in business operations?

- A. Reduced labor costs (Your Answer)(Correct)
- B. Increased workplace diversity
- C. Decreased customer engagement
- D. Limited innovation potential

Correct

Q36) What is the Turing Test used for in AI?

- A. To detect spam emails
- B. To measure a machine's ability to exhibit intelligent behavior (Your Answer)(Correct)
- C. To predict stock market trends
- D. To analyze DNA sequences

Incorrect

Q37) Which of the following is an example of a narrow AI?

- A. Self-driving car (Your Answer)(Incorrect)
- B. General game playing program
- C. Chatbot (Correct)
- D. Human-level AI

Correct

Q38) What is the main advantage of AI in business?

- A. Replacing human employees with machines
- B. Increasing operational efficiency and productivity (Your Answer)(Correct)
- C. Making business decisions based on emotions
- D. Creating conflicts among team members

Explanation: The main advantage of AI in business is increasing operational efficiency and productivity by automating repetitive tasks, analyzing data, and providing valuable insights for decision-making.

Correct

Q39) What is the concept of 'singularity' in AI?

- A. The moment when AI surpasses human intelligence (Your Answer)(Correct)
- B. The fusion of human and machine intelligence
- C. The ability of AI to think creatively
- D. The field of AI research focused on self-aware systems

Explanation: The concept of 'singularity' in AI refers to the hypothetical moment when artificial intelligence surpasses human intelligence, leading to unprecedented technological advancements and societal changes.

Correct

Q40) Which programming language is commonly used in AI development?

- A. C++
- B. Java
- C. Python (Your Answer)(Correct)
- D. HTML

Explanation: Python is commonly used in AI development due to its simplicity, readability, and extensive libraries that support machine learning and AI algorithms.

Correct

Q41) What does AI stand for?

- A. Artificial Intelligence (Your Answer)(Correct)
- B. Automated Instruction
- C. Automated Intelligence
- D. Advanced Innovation

Correct

Q42) What is the Turing Test?

- A. A test to measure a machine's ability to exhibit human-like intelligence (Your Answer)(Correct)
- B. A test to measure a machine's agility and speed
- C. A test to measure a machine's strength and endurance
- D. A test to measure a machine's memory capacity

Explanation: The Turing Test is a test to measure a machine's ability to exhibit human-like

intelligence, developed by Alan Turing in 1950.

Correct

Q43) What does AI stand for?

- A. Artificial Internet
- B. Algorithmic Inference
- C. Artificial Intelligence (Your Answer)(Correct)
- D. Automated Interaction

Explanation: AI stands for Artificial Intelligence, which refers to the simulation of human intelligence in machines that are programmed to think and act like humans.

Correct

Q44) Which technology is essential for AI to gather and process data from the environment?

- A. Internet of Things (IoT) (Your Answer)(Correct)
- B. Blockchain
- C. Virtual Reality (VR)
- D. Augmented Reality (AR)

Explanation: The Internet of Things (IoT) technology is essential for AI to gather and process data from the environment by connecting various devices and sensors to collect real-time data.

Correct

Q45) What is the ethical concern related to AI technology?

- A. Increasing unemployment rates
- B. Lack of transparency and bias in decision-making (Your Answer)(Correct)
- C. Limited access to AI-powered services
- D. Technological advancements too fast for society to adapt

Explanation: An ethical concern related to AI technology is the lack of transparency and bias in decision-making, as AI systems may unintentionally perpetuate existing biases and discrimination.

Correct

Q46

) Who is considered the 'father of AI'?

- A. Alan Turing
- B. John McCarthy (Your Answer)(Correct)
- C. Herbert Simon
- D. Marvin Minsky

Correct

Q47) Which of the following is an example of AI technology?

- A. Virtual Reality (Your Answer)(Correct)
- B. Coffee Maker
- C. Calculator
- D. Microwave Oven

Explanation:Virtual Reality is an example of AI technology as it involves creating a simulated environment which can be experienced in a similar way to reality.

Correct

Q48) What is the primary purpose of AI in healthcare?

- A. To replace doctors and nurses with machines
- B. To automate administrative tasks in hospitals
- C. To improve diagnosis and treatment outcomes (Your Answer)(Correct)
- D. To reduce the number of hospitals globally

Explanation:The primary purpose of AI in healthcare is to improve diagnosis and treatment outcomes by analyzing complex medical data and providing insights to healthcare professionals.

Correct

Q49) What is the goal of artificial intelligence?

- A. Replicate human emotions
- B. Solve complex problems using algorithms (Your Answer)(Correct)
- C. Predict the future accurately
- D. Create physical robots only

Explanation:The goal of artificial intelligence is to solve complex problems using algorithms and computational power, not necessarily to replicate human emotions or create physical robots only.

Correct

Q50) Which of the following AI applications is used in the healthcare industry?

- A. Fraud detection in banking
- B. Recommendation systems for e-commerce
- C. Diagnosis assistance for doctors (Your Answer)(Correct)
- D. Weather prediction