Takyon System Solutions Pvt Ltd

STOGOSUITE IT

TERM 1 ASSESSMENT

AI & ROBOTICS (Grades 7 to 9)

Name of the Student:
Name of the School :
Class:
Date :

Instructions:

- This is a multiple-choice question (MCQ) assessment.
- Each question carries 1 mark.
- Choose the correct answer by marking a tick (✔) on the appropriate option.
- Total Marks: **30**

Section A: MCQs (30 Marks)

1. Which component of a robot is responsible for decision-making?

- ☐ Actuator
- ☐ Sensor
- ☐ Control System
- ☐ Motor

2. What is the purpose of machine vision in robotics?

- ☐ To enable robots to hear sounds
- ☐ To allow robots to interpret and process images
- ☐ To store data
- ☐ To move objects

3. Which AI technology helps machines understand human speech?

- ☐ Computer Vision
- ☐ Natural Language Processing
- ☐ Machine Learning
- ☐ Neural Networks

4. What is the function of a robotic gripper?

- ☐ To power the robot
- ☐ To process data
- ☐ To manipulate objects
- ☐ To provide navigation

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5. What is supervised learning in AI?

- ☐ Learning without any labeled data
- ☐ Learning with examples provided
- ☐ Learning through trial and error
- ☐ Learning from other robots

6. Which sensor is used to detect obstacles in a robot's path?

- ☐ Temperature Sensor
- ☐ Ultrasonic Sensor
- ☐ Pressure Sensor
- ☐ Light Sensor

7. What is the main role of an algorithm in AI?

- ☐ To store information
- ☐ To define a step-by-step process for problem-solving
- ☐ To provide energy to machines
- ☐ To connect devices

8. Which of these is an example of unsupervised learning?

- ☐ Clustering similar items together
- ☐ Training a model to predict outcomes
- ☐ Teaching a robot to navigate a maze
- ☐ Sorting fruits by size using labeled data

9. What is the role of ethics in AI?

- ☐ To make robots faster
- ☐ To ensure AI is used responsibly
- ☐ To stop AI development
- ☐ To replace human workers

10. Which robot is commonly used for space exploration?

- ☐ Industrial Robot
- ☐ Humanoid Robot
- ☐ Rover
- ☐ Drone

11. What is reinforcement learning?

- ☐ Learning from labeled data
- ☐ Learning by receiving rewards and penalties
- ☐ Learning by copying human behavior
- ☐ Learning without any interaction

12. What is the advantage of collaborative robots (cobots)?

- ☐ They work independently of humans
- ☐ They are designed to work alongside humans
- ☐ They are only used in factories
- ☐ They do not require programming

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13. Which material is often used to create lightweight robot arms?

- ☐ Steel
- ☐ Aluminium
- ☐ Plastic
- ☐ Wood

14. What is the function of a feedback loop in a robot?

- ☐ To collect data
- ☐ To improve task accuracy based on performance
- ☐ To power the robot
- ☐ To store energy

15. Which type of AI mimics human brain structure?

- ☐ Neural Networks
- ☐ Rule-Based Systems
- ☐ Expert Systems
- ☐ Symbolic AI

16. Which part of a robot enables mobility?

- ☐ Sensor
- ☐ Actuator
- ☐ Camera
- ☐ Processor

17. Which industry uses robots for assembling products?

- ☐ Education
- ☐ Automotive
- ☐ Agriculture
- ☐ Healthcare

18. What is a drone equipped with cameras primarily used for?

- ☐ Medical surgery
- ☐ Aerial surveillance
- ☐ Manufacturing
- ☐ Teaching

19. What is a chatbot?

- ☐ A robot that walks like a human
- ☐ An AI-based system for text and voice interactions
- ☐ A machine used in agriculture
- ☐ A tool for cleaning surfaces

20. What is computer vision?

- ☐ AI understanding and interpreting visual data
- ☐ Robots moving objects
- ☐ Creating 3D models
- ☐ Translating languages

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21. Which technology helps robots perform repetitive tasks efficiently?

- ☐ Automation
- ☐ Networking
- ☐ Cloud Computing
- ☐ Machine Translation

22. What is the purpose of a gyroscope in a robot?

- ☐ To detect sound
- ☐ To balance the robot
- ☐ To generate power
- ☐ To process instructions

23. What is the primary use of robotic arms in manufacturing?

- ☐ Painting
- ☐ Welding
- ☐ Assembly
- ☐ All of the above

24. What is swarm robotics?

- ☐ Using one large robot for a task
- ☐ Coordinating multiple small robots to work together
- ☐ Robots designed for underwater exploration
- ☐ Robots built for construction

25. Which of the following is a real-world AI application?

- ☐ Voice assistants
- ☐ Smart home devices
- ☐ Autonomous vehicles
- ☐ All of the above

26. What is the goal of AI in healthcare?

- ☐ To replace doctors
- ☐ To improve diagnosis and treatment
- ☐ To make medicine cheaper
- ☐ To create robotic nurses

27. What is a robotic end-effector?

- ☐ The base of the robot
- ☐ The tool attached to a robotic arm
- ☐ The power supply
- ☐ The control system

28. What type of AI is capable of learning from large datasets?

- ☐ Machine Learning
- ☐ Symbolic AI
- ☐ Cloud AI
- ☐ None of the above

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29. What is the purpose of a LiDAR sensor in robots?

- ☐ To detect temperature changes
- ☐ To measure distance using laser technology
- ☐ To identify colors
- ☐ To capture images

30. Which AI technology can predict outcomes based on past data?

- ☐ Predictive Analytics
- ☐ Computer Vision
- ☐ Natural Language Processing
- ☐ Neural Networks

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