Code:: **21P03601** **SR21** **SET-2**

SRINIVASA INSTITUTE OF ENGINEERING AND TECHNOLOGY

UGC – Autonomous Institution

III B.Tech II Semester I MID Examinations, FEBRUARY – 2025

ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

MECH

Time : **20 Mins**	Max. Marks:**20**			Date: 24-**02.2025**
Roll No:	Sign of the Student:			Marks Obtained:
Name:	Sign of invigilator:			Sign of Valuator:
CO	CO 1	CO 2		Marks Obtained:
UNIT	I	II		Total Marks

1. Why is AI needed in today's world? **[ ]**

a) To replace human workers

b) To solve complex problems and automate tasks

c) To create more entertaining movies

d) To make robots that can do everything humans can

2. Which of the following is a potential benefit of AI? **[ ]**

a) It can lead to job displacement

b) It can be expensive to develop

c) It can improve decision-making

d) It can be biased

3. What is the key characteristic of supervised learning? **[ ]**

a) Learning from labeled data

b) Learning from unlabeled data

c) Learning by trial and error

d) Learning without any data

4. What is the key characteristic of unsupervised learning? **[ ]**

a) Learning from labeled data

b) Learning from unlabeled data

c) Learning by trial and error

d) Learning without any data

5. What is the key characteristic of reinforcement learning? [ ]

a) Learning from labeled data

b) Learning from unlabeled data

c) Learning by trial and error

d) Learning without any data

6. Which type of machine learning is commonly used for spam filtering? [ ]

a) Supervised learning

b) Unsupervised learning

c) Reinforcement learning

d) None of the above

7. Which type of machine learning is commonly used for customer segmentation? [ ]

a) Supervised learning

b) Unsupervised learning

c) Reinforcement learning

d) None of the above

8. What is an intelligent agent in AI? [ ]

a) A human programmer

b) A robot that can perform physical tasks

c) An AI system that can learn, adapt, and make decisions

d) A software program that can only follow pre-programmed rules

9. What is the "environment" in the context of AI agents? [ ]

a) The physical world around the agent

b) The data that the agent learns from

c) The code that the agent is written in

d) The goals that the agent is trying to achieve

10. What is the main goal of an intelligent agent? **[ ]**

a) To collect as much data as possible

b) To learn and adapt to its environment

c) To perform tasks as quickly as possible d) To replace human workers

11. Which logic allows reasoning with objects, relations, and quantifiers? **[ ]**

A) Propositional Logic
B) First-Order Logic
C) Fuzzy Logic
D) Probabilistic Logic

12. What does an entailment relationship mean in logical reasoning? **[ ]**

A) One sentence follows logically from another
B) A contradiction exists in the KB
C) A statement is proven false
D) The KB contains unnecessary information

13. What is a theorem prover? **[ ]**

A) A system that applies inference rules to prove logical statements
B) A statistical model for predicting outcomes
C) A neural network for solving logical problems
D) A method for selecting actions randomly

14. What is the purpose of a rule-based system in logical agents? **[ ]**

A) To react without processing logic
B) To apply logical inference based on rules
C) To generate random actions
D) To process only numerical data

15. What is a Horn clause? **[ ]**

A) A clause with at most one positive literal
B) A sentence with multiple negative literals
C) A rule in a probabilistic model
D) A contradiction in a KB

16. Which logical rule is used for forward chaining? **[ ]**

A) If P → Q and P is true, then Q is true
B) If P → Q and Q is true, then P is true
C) P is false, so Q must be false
D) P and Q are independent

17. What is backward chaining in logical reasoning? **[ ]**

A) Working from conclusions to premises
B) Moving forward from facts to conclusions
C) Storing knowledge in a database
D) A method for discarding rules

18. What is a truth table used for in logic? **[ ]**

A) To test all possible values of logical expressions
B) To store knowledge
C) To create rules in AI models
D) To encode data for processing

19. What does the term “soundness” mean in logic? **[ ]**

A) All logically derived conclusions are true
B) The system generates random conclusions
C) The system makes decisions quickly
D) The agent ignores contradictions

20. What does completeness mean in logic? **[ ]**

A) The system can derive every logically true statement
B) The system cannot infer anything new
C) The system can store infinite knowledge
D) The system is limited to certain rules