



HITEC UNIVERSITY
Department of Computer Science
BS Cyber Security Program (Batch 2024)

Subject: CS-312 Artificial Intelligence

Instructor: Mr. Mubashir Iqbal

Marks: 40

Last Date of submission: 05 Nov 2025

GENERAL INSTRUCTIONS FOR Quiz

- Use Proper Paper: Write on white, lined paper with margin lines on the left.
- Headings & Formatting: Use a black marker for main headings. Use a blue marker for subheadings.
- Write the primary content with a blue or black pen (no other colors).
- Draw every possible shape, diagram, graph, and plot.
- Keep your handwriting clean and readable. Underline important terms neatly. Avoid cutting or overwriting.

Course Outcome	Student Outcome	Learning Domain
CO-01	SO-01	Cognitive 3

Question 01: Describe one *real-world example* of AI from each of the following eras:

- a) Early symbolic AI (1950s–1970s)
- b) Machine Learning era (1980s–2010s)
- c) Deep Learning era (2010–present)

Question 02: AI is being used in healthcare, transportation, and defense sectors. Select any one sector and explain **how AI agents are used to improve efficiency or decision-making** in that domain.

Question 03: Suppose you are designing a **self-driving delivery robot**.

- a) Identify its **PEAS (Performance measure, Environment, Actuators, Sensors)**.
- b) Classify the **type of agent** it represents (e.g., Model-based, Goal-based, Utility-based, Learning agent), and justify your answer.

Question 04: Consider a **firefighting drone** that detects fire using thermal sensors and autonomously extinguishes it. Classify its environment using the following categories and justify each:

- Fully / Partially Observable
- Deterministic / Stochastic
- Static / Dynamic
- Discrete / Continuous
- Single-Agent / Multi-Agent