



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

**Subject:** CS-312 Artificial Intelligence

**Instructor:** Mr. Mubashir Iqbal

**Marks:** 40

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***GENERAL INSTRUCTIONS FOR Quiz***

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- 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:** Define Artificial Intelligence (AI) in your own words. Explain how it is different from **Machine Learning (ML)** and **Deep Learning (DL)** with two examples of each.

**Question 02:** List any three real-world applications of AI in different industries. For each, mention what problem it solves and what kind of intelligence (human-like ability) it demonstrates.

**Question 03:** Differentiate between Breadth-First Search (BFS) and Depth-First Search (DFS) based on:

- a) Memory usage
- b) Completeness
- c) Type of problems best suited for each
- d) Give one practical scenario for both algorithms.

**Question 04:** Suppose you are designing an AI system for **stock market prediction**. Classify its environment as:

- a) Fully or Partially Observable?
- b) Deterministic or Stochastic?
- c) Static or Dynamic?
- d) Discrete or Continuous?

Then, explain why each classification fits.