

B.C.A. Sem.-6 (Rep) Examination

CC-309

Introduction to AI & ML

Time : 2-30 Hours]

October-2025

[Max. Marks : 70

- QUESTION - 1 Write the following.
- (i) Define Artificial Intelligence? Explain the Acting Humanly approach of AI in detail. 07
- (ii) List and explain any 6 applications of AI with example. 07
- OR
- (i) Define Agent. Explain Simple Reflex Agent and Goal Based Agent in detail. 07
- (ii) List and explain various types of environment in AI. 07
- QUESTION - 2 Write the following.
- (i) Write a short note on Breadth First Search and Depth First Search. 07
- (ii) Explain A* algorithm in detail with proper example. 07
- OR
- (i) Explain five components of well-defined problems with example. 07
- (ii) Define Heuristic Search. Explain Greedy Best First Search with Example. 07
- QUESTION - 3 Write the following.
- (i) Write short note on HITS Algorithm. 07
- (ii) Explain various applications of NLP in detail with example. 07
- OR
- (i) What is NLP? Explain N-Gram word model in detail with example 07
- (ii) Explain Page Rank algorithm in detail. 07
- QUESTION - 4 Write the following.
- (i) Define Machine Learning. Explain Supervised Machine Learning in detail with example. 07
- (ii) What is Unsupervised Machine Learning? Discuss unsupervised problem solving clustering in detail with example. 07
- OR
- (i) List and explain any 6 applications of machine learning in detail with example. 07
- (ii) Explain the working mechanism of Supervised Machine Learning on a new data. 07
- QUESTION - 5 Attempt any seven out of twelve. 14
- (i) Regression and classification are categorized under the same umbrella of unsupervised machine learning. (True/False)
- (ii) The Turing Test is named after _____, the founder of the Turing Test.
a. Elon Musk b. Alan Turing c. John McCarthy d. Albert Turing
- (iii) PEAS stand for Performance Measures Environment 1Actuators and Sensors. (True/False)
- (iv) _____ search technique is also known as Brute Force Search.
a. Uninformed b. Informed c. Greedy d. A*
- (v) Informed Search is also known as Blind Search. (True/False)

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B.C.A. Semester – VI Examination
Subject: CC-309 Introduction to AI and ML (Theory)

Time: 2:30 Hours

Total Marks: 70

- (vi) Who is known as the "Father of AI"?
a. Fisher Ada b. Alan Turing c. John McCarthy d. Allen Newell
- (vii) Define Classification.
- (viii) Tokenization in NLP refers to the process of converting text into numerical vectors. (True/False)
- (ix) Named Entity Recognition (NER) in NLP is used to identify and classify entities such as names, locations and dates in a text. (True/False)
- (x) The Machine Learning environment consists only of training data and does not include hardware or software configurations. (True/False)

(xi) Match the following:

1. Supervised ML	a. Feedback Learning
2. Unsupervised ML	b. Hybrid Learning
3. Reinforcement Learning	c. Classification
4. Semi Supervised	d. Clustering

- a. 1->a,2->c,3->d,4->b
b. 1->c,2->d,3->a,4->b
c. 1->c,2->b,3->d,4->a
d. 1->a,2->b,3->d,4->c

(xii) Write a full form of NLP.

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