



Tribhuvan University
Faculty of Humanities & Social Sciences
OFFICE OF THE DEAN
2024

Bachelor in Computer Applications
 Course Title: Artificial Intelligence
 Code No: CACS 410
 Semester: VII

Full Marks: 60
 Pass Marks: 24
 Time: 3 hours

Candidates are required to answer the questions in their own words as far as possible.

Group B

Attempt any SIX questions.

2. What are strong and weak AI? Explain model based agent with an example. [6×5 = 30]
3. Explain hill climbing algorithm in brief. List out the drawbacks of hill climbing with proper solution. [2+3]
4. What is knowledge? Explain the use of conditional probability in AI. [2+3]
5. Explain the term selection, mutation & crossover.
6. What are the applications of Expert system? Explain rule based expert system. [3+2]
7. Explain the role of activation function in ANN? Implement Perceptron algorithm for OR logic gate with 2-bit binary input. [2+3]
8. Write short notes on: (any two)
 - i. Application of Machine vision
 - ii. Blind Search Vs. Heuristic Search
 - iii. Resolution Refutation System

Group C

Attempt any TWO questions.

[2×10 = 20]

9. Consider the following sentences:
 Kapil likes all kinds of food
 Apples are food
 Chicken is food
 Anything anyone eats and is not killed by is food
 Kamal eats peanuts and is still alive.
 Prove that Kapil likes peanuts using resolution.
10. Explain alpha beta pruning algorithm with example? Given following 8 puzzle, it consists of 3*3 board with 8 numbered tiles and a blank space. A tile adjacent to blank space can slide into blank space. Show how heuristic search (use number of misplaced tiles to calculate heuristic value) is used to find the goal state. [4+6]

2	1	3
4		6
7	5	8

Initial State

1	2	3
8		4
7	6	5

Goal State

11. Explain back propagation algorithm with suitable example. Explain about Semantic and Pragmatic analysis. [6+4]