# Tribhuvan University
## Faculty of Humanities & Social Sciences
### OFFICE OF THE DEAN
### 2021

Bachelor in Computer Applications
Course Title: Artificial Intelligence
Code No: CACS410
Semester: VII

Full Marks: 60
Pass Marks: 24
Time: 3 hours
Batch: 2018

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

## Group B

Attempt any SIX questions.

[6×5 = 30]

2. Compare Goal Based and Utility Based agent with example
3. Using Constraint satisfaction problem solve the Cryptarithmetic Problem

   CROSS + ROADS = DANGER

4. What are various knowledge representation issues? Provide solution of any two.
5. Explain with example supervised and unsupervised learning.
6. Explain the architecture of Expert system. Give its two application areas.
7. What is the need of activation function in ANN? Implement Perceptron algorithm for AND logic gate with 2-bit binary input.
8. Write short notes on:

   a) Hopefield Network

   b) Best First Search

## Group C

Attempt any TWO questions.

[2×10 = 20]

9. Consider the following sentences:

   a) Tashi only likes easy course
   b) Science Courses are hard
   c) All courses in Computer Application are easy
   d) Artificial Intelligence is Computer Application Course.
   Use resolution to ensure question what Course would Tashi like?

10. Explain A* algorithm with suitable example. Differentiate between informed and uniformed search.         [7+3]

11. Define universal and existential quantifiers. Explain Bayesian Belief Network in brief. Discuss how back propagation algorithm is used to train ANN?         [2+2+6]