

Program: Master of Computer Applications

Curriculum Scheme: MCA 2 year Course

Examination: MCA First Year Semester - II

Course Code: MCA22 and Course Name: Artificial Intelligence and Machine Learning

Time: 2 HRS

Max. Marks: 80

Section I - MCQS (40 Marks) – 40 Minutes

Section II – Subjective (40 Marks) – 80 Minutes

SECTION II

Q2. Solve any **four** questions out of **six** which carry 5 marks each respectively.

20 marks

- A. What is entropy and what is its significance?
- B. What are Steps for Designing Learning System.?
- C. Write a short note on KNN Classification. .
- D. Give a PEAS representation for an intelligent Robot for cleaning a library..
- E. Write a note on Support Vector Machine.
- F. Explain any method of reducing dimensionality?

Q3 Solve any **two** questions out of **three** which carry 10 marks each respectively. - **20 marks**

1. Explain Hill Climbing Searching Technique with its advantages and limitations.
2. Explain the K-Means Clustering algorithm with an example.
3. Implement AND function using perceptron network for bipolar inputs and bipolar targets.(Initial values are $w_1=w_2=w_3=b=0$, learning rate=1, threshold=0.2)
