D4ACS2002 **(1 Page)** **Name.....**
Reg.No.....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2022
COMPUTER SCIENCE
FCSS4E04: ADVANCED MACHINE LEARNING

Time: 3 Hours **Maximum Weightage: 30**

Section A: Short answer questions. Answer any *four* questions. Each carries *two* weightage.

1. What is the significance of Reinforced learning?
2. List out three axioms of probability.
3. Write a short note on linear regressions.
4. In short words, explain K-means algorithm.
5. What is temporal difference learning?
6. With the help of a diagram, describe perceptron.
7. Expand LSTM, RNN, CNN.

(4×2 = 8 weightage)

Section B: Short essay question. Answer any *four* questions. Each carries *three* weightage.

8. Explain orthogonality of Vectors.
9. Write any four applications of Machine Learning in Technology.
10. How do you differentiate Artificial intelligence, Machine Learning and Deep Learning?
11. Compare Decision tree and Random Forest classifiers.
12. Describe any two clustering techniques in AI.
13. Discuss different types of error calculation methods.
14. Explain any four activation functions and its working.

(4×3 = 12 weightage)

Section C: Essay questions. Answer any *two* questions. Each carries *five* weightage.

15. Explain Bayer's Theorem.
16. Discuss any two supervised classification algorithms. Draw diagrams and illustrate with examples.
17. Explain Topic modelling and Latent Dirichlet Allocation(LDA).
18. a) Explain various validation and testing methods.
    b) Write notes on over-fitting and underfitting.

(2×5 = 10 weightage)