PG – 374

III Semester M.C.A. (Two Years Course) Examination, May 2024
(CBCS) (2021 – 22)
COMPUTER SCIENCE
MCA3E1/MSC3E1 – Machine Learning (Elective)

Time : 3 Hours Max. Marks : 70

Instructions : *1) Answer **any 5** from Section – **A**.*
*2) Answer **any 4** from Section – **B**.*

SECTION – A

Answer **any 5** questions. **Each** question carries **6** marks. **(5×6=30)**

1. Expand AUC, RoC and explain the concept.
2. Explain MAP Hypothesis to predict probability.
3. What is Entropy ? How do we employ Mutual Information for classification between positive and negative class ?
4. Define Machine Learning. Mention the perspectives and issues in ML.
5. Explain about the terms :
   i) K-mean clustering
   ii) Hierarchical clustering.
6. Explain Confusion Matrix with respect to detection of "Spam e-mails".
7. What is an Inductive bias ? Is there any effect on classification due to bias ?
8. In which cases Naive Bayes is useful in classification ? Why ?

P.T.O.

SECTION – B

Answer **any 4** questions. **Each** question carries **10** marks. **(4×10=40)**

9. Explain K-Nearest Neighbour techniques with an example.

10. What is a Recommender System ? How Machine Learning is useful in Recommender Systems ?

11. What is Gibbs Algorithm ? What is its suitability in Machine Learning ?

12. With a suitable example, explain Logistic Regression.

13. Distinguish between supervised learning and reinforcement learning. Illustrate with an example.

14. Write Decision Tree Algorithm and explain with suitable example.
