K24U 3587

Reg. No. : .....

Name : .....

III Semester B.Sc. Degree (C.B.C.S.S.– O.B.E.–Regular)
Examination, November 2024
(2023 Admission)
CORE COURSE IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING
3B04 AIML : Introduction to Artificial Intelligence and Machine Learning

Time : 3 Hours Max. Marks : 40

PART – A
(Short Answer)

Answer **all** questions. **Each** question carries **1** mark.

1. What do you mean by global maximum regions in the State Space Diagram ?
2. How will you represent a state space by a relation ?
3. In expert systems, what is knowledge acquisition ?
4. What type of reasoning starts with known facts and applies inference rules to reach a goal ?
5. Expand the term SVM.
6. Write down the goal of PCA. **(6×1=6)**

PART – B
(Short Essay)

Answer **any six** questions. **Each** question carries **2** marks.

7. List down any 2 features of production system.
8. Illustrate Generate and Test Search.
9. How are rules used in knowledge representation and what is their purpose ?
10. Define control knowledge.

P.T.O.

11. Differentiate between overfitting and underfitting.

12. What is a Bayesian belief network ?

13. What is the objective of k-means clustering ?

14. What are the two categories of decision trees represented by the term CART ?

(6×2=12)

PART – C
(Essay)

Answer **any four** questions. **Each** question carries **3** marks.

15. How Means-Ends Analysis Works ?

16. Explain the different regions of state space diagram for Hill Climbing.

17. Explain how instance relationships differ from "isa" relationships in knowledge representation with an example.

18. Explain Machine Learning.

19. List and explain the two main classification types in machine learning.

20. Explain any three advantages of fuzzy clustering. (4×3=12)

PART – D
(Long Essay)

Answer **any two** questions. **Each** question carries **5** marks.

21. Describe the characteristics of production systems.

22. Differentiate between Procedural Knowledge and Declarative Knowledge.

23. Explain different types of Learning in detail.

24. Explain the architecture of CNN. (2×5=10)
