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Question Paper Code: U1302

Ph.D. COURSE WORK EXAMINATION, MAY 2024

Elective

Computer Science and Engineering

21PCS505 –MACHINE LEARNNG TECHNIQUES

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What are the different algorithm techniques in machine learning? CO1 - U
2. Write some application of machine learning. CO1 - U
3. Differentiate Classification and Regression CO3–App
4. Define Entropy in Decision tree CO2 - App
5. What do you mean by Cluster Sampling? CO1 - U
6. Name different algorithms that can implement Dimensionality reduction CO3 - Anz
7. What is the fundamental tool used for diagnostic test evaluation? CO1 - U
8. What is ROC curve and what does it represent? CO1 - U
9. Define Passive reinforcement learning CO1 - U
10. Define Directed Acyclic Graph(DAG) CO3 - Anz

PART B - (5 x 16 = 80 Marks)

11. (a) Describe about training and testing data more clearly with an example? CO1 - U (16)
Or
(b) Explain detail about theory of generalization. CO1 - U (16)
12. (a) Illustrate the gradient search to maximize likelihood in a neural net. CO2- App (16)
Or
(b) Construct the Regularized Regression method and apply the regression functions in any one of the field of machine learning CO2- App (16)

13. (a) Explain in detail K-d trees CO1 - U (16)
Or
(b) Explain K-means clustering in machine learning. CO1 - U (16)
14. (a) What is sequence learning? What are the different categories you can categorize the sequence learning process? CO3– Anz (16)
Or
(b) Why is cross-validation important in machine learning? CO3– Anz (16)
15. (a) Identify Why Game Theory at COLT? CO3– Anz (16)
Or
(b) Differentiates Correlated Equilibrium and Nash Equilibrium CO3– Anz (16)