SET: 1

G.PULLAIAH COLLEGE OF ENGINEERING AND TECHNOLOGY: KURNOOL
Department of Computer Science & Engineering
B. Tech III Year-II SEMESTER First Mid – Term Examinations, FEB, 2023
MACHINE LEARNING(A30528)

Time: 90 minutes   **Max. Marks**: 30
Note: Answer ALL Questions.

Answer the following	Marks	Unit	CO	Cognitive Level
1.(a) Illustrate how Designing of a Learning System works with example. (b)What are the different issues with machine learning.	5+5 M	I	A30528.1	Understanding
OR				
2.(a) Determine in detail the FIND-S Finding a maximally specific hypothesis? (b)Give a brief note on Finite and Infinite Hypothesis Spaces.	5+5M	I	A30528.1	Evaluate

Answer the following	Marks	Unit	CO	Cognitive Level
3.(a) Define Linear and Non-linear regression with an example? (b)Enumerate Multi-class andmulti-label classification.	5+5 M	I	A30528.1	Remember
OR				
4. (a) Explain ID3 algorithm in Decision Tree Learning by using information gain,entropy with an example. (b) Differentiate Linear and logistic regression.	5+5M	I	A30528.1/ A30528.2	Understanding

Answer the following	Marks	Unit	CO	Cognitive Level
5.(a) Analyze how a multi-layer network learns using a gradient descent algorithm. (b) Construct a neat sketch of Random Forest Trees.	5+5M	II	A30528.2	Analyze /create
OR				
6. (a) Analyze the steps involved in Adaptive Boosting Algorithm? How to estimate the total error and how does a weight change in AdaBoosting algorithm? (b)Demonstrate in detail about Random Forest Trees.	5+5 M	II	A30528.2	Analyze /Understanding

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MACHINE LEARNING(A30528)

Time: 90 minutes   **Max. Marks**: 50

Note: Answer ALL Questions.

Answer the following	Marks	Unit	CO	Cognitive Level
1.(a)Explain Concept Learning. Write FIND-S algorithm in Concept Learning. (b) justify the VC Dimension with an example.	5+5M	I	A30528.1	Understanding
OR				
2.(a)Infer the Examples of Various Learning Paradigms. (b) Construct a neat sketch explain Logistic Regression.	5+5 M	I	A30528.1	Understanding /create

Answer the following	Marks	Unit	CO	Cognitive Level
3.(a)Explain Candidate Elimination Algorithm with an example. (b) Construct a neat sketch explain Linear Regression.	5+5M	I	A30528.1	Understanding /create
OR				
4.(a) Explain ID3 algorithm in Decision Tree Learning. (b)Illustrate in detail about K-Nearest Neighbors.	5+M	II	A30528.2	Understanding

Answer the following	Marks	Unit	CO	Cognitive Level
5.(a)Explain Perceptron? and draw Multilayer Perceptron. (b) Define Stacking with example ?	5+5M	II	A30528.2	Understanding
OR				
6.(a) Discuss how a multi-layer network learns using a gradient descent algorithm. (b)Write a short note on Ensemble Learning Model.	5+5M	II	A30528.2	Creating

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MACHINE LEARNING(A30528)

Time: 90 minutes   **Max. Marks**: 15

Note: Answer ALL Questions.

Answer the following	Marks	Unit	CO	Cognitive Level
1.(a)Explain Candidate Elimination Algorithm with an example. (b) Construct a neat sketch explain Linear Regression.	5+5M	I	A30528.1	Understanding
OR				
2.(a) Explain ID3 algorithm in Decision Tree Learning. (b)Illustrate in detail about K-Nearest Neighbors.	5+5M	I	A30528.1	Understanding

Answer the following	Marks	Unit	CO	Cognitive Level
3.(a) Illustrate how Designing of a Learning System works with example. (b)What are the different issues with machine learning.	5+5M	I	A30528.1	Understanding
OR				
4.Explain in detail the FIND-S Finding a maximally specific hypothesis? (b)Give a brief note on Finite and Infinite Hypothesis Spaces	5+5M	I	A30528.1	Understanding

Answer the following	Marks	Unit	CO	Cognitive Level
5.(a)Explain Perceptron ?and draw Multilayer Perceptron. (b) Define Stacking with example ?	5+5M	II	A30528.2	Understanding /create
OR				
6.(a) Discuss how a multi-layer network learns using a gradient descent algorithm. (b)Write a short note on Ensemble Learning Model.	5+5M	II	A30528.2	Understanding

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MACHINE LEARNING(A30528)

Time: 90 minutes   **Max. Marks**: 30
Note: Answer ALL Questions.

Answer the following	Marks	Unit	CO	Cognitive Level
1.(a)Explain Candidate Elimination Algorithm with an example. (b) Construct a neat sketch explain Linear Regression.	5+5M	I	A30528.1	Understanding /create
OR				
2.(a) Explain ID3 algorithm in Decision Tree Learning. (b)Illustrate in detail about K-Nearest Neighbors.	5+5M	I	A30528.1	Understanding

Answer the following	Marks	Unit	CO	Cognitive Level
3.(a)Explain Concept Learning. Write FIND-S algorithm in Concept Learning. (b) justify the VC Dimension with an example.	5+5M	I	A30528.1	Understanding
OR				
4.(a)Explain the Examples of Various Learning Paradigms. (b) Construct a neat sketch explain Logistic Regression.	5+5M	I	A30528.1/ A30528.2	Understanding /create

Answer the following	Marks	Unit	CO	Cognitive Level
5.(a) Discuss how a multi-layer network learns using a gradient descent algorithm. (b) Draw a neat sketch of Random Forest Trees.	5+5M	II	A30528.2	Understanding
OR				
6. (a) Explain the steps involved in Adaptive Boosting Algorithm? How to estimate the total error and how does a weight change in AdaBoosting algorithm? (b)Demonstrate in detail about Random Forest Trees.	5+5M	II	A30528.2	Creating

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G.PULLAIAH COLLEGE OF ENGINEERING AND TECHNOLOGY: KURNOOL
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B. Tech III Year-II SEMESTER (R19) First Mid – Term Examinations, FEB, 2023
MACHINE LEARNING(A30528)

ROLL NO :   **INVIGILATOR SIGN:**

Time: 20 minutes   **Max. Marks: 10M**

1. What is the application of machine learning methods to a large database called?   [   ]
   a) Big data computing   b) Internet of Things   c) Data Mining   d) Artificial Intelligence

2. Which of the following machine learning algorithm is based upon the idea of bagging?   [   ]
   a) Decision Tree   b) Random Forest   c) Classification   d) Regression

3. What is the term known as on which the machine learning algorithms build a model based on sample data?
   a) Data Training   b) Training Data   c) Transfer Data   d) None of the above   [   ]

4. Machine learning is a subset of which of the following.
   a) Artificial intelligence   b) Deep learning   [   ]
   c) Data learning   d) None of the above

5. Which of the following machine learning techniques helps in detecting the outliers in data?
   a) Classification   b) Clustering   c) Anomaly detection   d) All the above   [   ]

6. The father of machine learning is _____   [   ]
   a) Geoffrey Everest Hinton   b) Geoffrey Hill   c) Geoffrey Chaucer   d) None of the above

7. The most significant phase in genetic algorithm is _____   [   ]
   a) Mutation b) Selection   c) Fitness function   d) Crossover

8. Which of the following are common classes of problems in machine learning?   [   ]
   a) Regression   b) Classification   c) Clustering   d) All the above

9. Identify the successful applications of ML.   [   ]
   a) Learning to classify new astronomical structures   b) Learning to recognize spoken words
   b) Learning to drive an autonomous vehicle   d) All the above

10. FIND-S algorithm ignores?   [   ]
    a) Positive   b) Negative   c) Both   d) None of the above

11. Choose the general limitations of the backpropagation rule among the following   [   ]
    a) Slow Convergence   b) Scaling c) Local Minima Problem   d) All the above

12. Analysis of ML algorithm needs   [   ]
    a) Statistical Learning Theory   b) Computational Learning Theory
    c) Both A & B   d) None of the above

13. The total types of the layer in radial basis function neural networks is _____   [   ]
    a) 1   b) 2   c)3   d) 4

14. Machine learning as various Search and Optimization algorithms. Identify among the following which is not evolutionary computation.   [   ]
    a) Genetic algorithm   b) Genetic Programming   c) Neuroevolution   d) Perceptron

15. Which of the following is not machine learning disciplines?   [   ]
    a) Information theory   b) Optimisation + control   c) Physics   d) Neuro statistics

16. Which of the following is not machine learning?   [   ]
    a) Artificial Intelligence   b) Rule based Inference   c) Both A & B   d) None of the Above

17. Machine Learning algorithms build a model based on sample data, known as _____   [   ]
    a) Training Data   b) Transfer Data   c) Data Training   d) None of the above

18. Common classes of problems in machine learning is _____   [   ]
    a) Clustering   b) Regression   c) Classification   d) All the above

19. In language understanding, the levels of knowledge that does not include?   [   ]
    a) Phonological   b) Syntactic   c) Empirical   d) Logical

20. A model of language consists of the categories which does not include?   [   ]
    a) Language units   b) Role structure of units   c) System constraints   d) Structural units

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MACHINE LEARNING(A30528)

ROLL NO :   INVIGILATOR SIGN:

Time: 20 minutes   **Max. Marks: 10M**

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12. Which of the following machine learning algorithm is based upon the idea of bagging?   [   ]
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15. Which of the following machine learning techniques helps in detecting the outliers in data?
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16. The father of machine learning is _____   [   ]
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19. Identify the successful applications of ML.   [   ]
     a)   Learning to classify new astronomical structures   b) Learning to recognize spoken words
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