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SNS College of Technology, Coimbatore-35.

(Autonomous)

Internal Assessment - I

Academic Year 2023-2024 (EVEN)

Second Semester

Department of Management Studies

23BAT615– Artificial Intelligence for Managers

B

Time: 1 ½ Hours

Maximum Marks: 50

Answer all the questions CO Level Marks

PART A

- | | | | | |
|----|---|------|----|---|
| 1. | Define Machine Learning | CO 1 | R | 2 |
| 2. | Examine the statistical foundations of machine learning algorithms. | CO 1 | An | 2 |
| 3. | Analyze the principles of effective data storytelling and how visualizations can enhance understanding and decision-making. | CO 1 | An | 2 |
| 4. | List out the applications of decision trees in supervised learning. | CO 2 | R | 2 |
| 5. | What are some common evaluation metrics used to assess the performance of classification and regression models? | CO 2 | R | 2 |

PART B

- | | | | | |
|----|--|------|----|----|
| 6. | a) Analyze the importance of data attribution in AI and ML applications. How can organizations ensure proper | CO 1 | An | 13 |
|----|--|------|----|----|

data attribution throughout the data lifecycle?

or

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|----|--|------|---|----|
| b) | Explain the statistical foundations underlying machine learning algorithms, such as hypothesis testing and probability distributions. How do these concepts contribute to model building and evaluation? | CO 1 | U | 13 |
|----|--|------|---|----|

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| 7. | a) Analyze the advantages and disadvantages of popular supervised learning algorithms such as linear regression, decision trees, and support vector machines. When would you choose one algorithm over another? | CO 2 | An | 13 |
|----|---|------|----|----|

or

- | | | | | |
|----|--|------|-----|----|
| b) | A financial institution wants to detect fraudulent transactions in credit card data. Design a supervised learning model to classify transactions as fraudulent or legitimate based on transaction history and customer behavior. | CO 2 | App | 13 |
|----|--|------|-----|----|

8. Case Study:

- | | | | | |
|-----|--|------|-----|----|
| a). | A healthcare organization wants to implement a machine learning-based system to assist in diagnosing diseases from medical images. Describe the statistical foundations underlying image classification algorithms and their role in accurate disease diagnosis. | CO 1 | App | 14 |
|-----|--|------|-----|----|

or

b) A marketing agency wants to analyze customer sentiment towards a new product launch based on social media data. Propose an unsupervised learning approach to cluster social media posts by sentiment and discuss how the agency can derive insights from these clusters.

CO 2 App

14

*Abbreviations: CO: Course Outcome, R: Remember, U: Understand, APP: Apply, An: Analyze, E: Evaluate, C: Create
