

Code No: M155AA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, January/February - 2023

FOUNDATIONS OF ARTIFICIAL INTELLIGENCE

(Minor Program in Artificial Intelligence and Machine Learning)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A**(25 Marks)**

- 1.a) What is meant by Procedural knowledge? [2]
- b) Write down the applications of AI. [3]
- c) Define Regression. [2]
- d) Discuss about Matrix Theory. [3]
- e) Define Gradient Decent. [2]
- f) Write about Cost Function. [3]
- g) What is Logistic Regression? [2]
- h) Define Overfitting issues. [3]
- i) How is clustering different from classification? [2]
- j) What are the major steps to measure similarities of data? [3]

PART – B**(50 Marks)**

- 2.a) What is the significance of knowledge representation? Give an example. [4+6]
 - b) Write a note on predicates and computable functions. [4+6]
- OR**
3. Discuss briefly about AI techniques, in detail. [10]
 4. What is machine learning? Explain supervised learning and unsupervised learning. [10]
- OR**
5. “Learning is the most important characteristic of Intelligence” Justify with statement. [10]
 6. Describe briefly about Gradient Decent for Linear Regression. [10]
- OR**
7. Explain about Single variable Cost Function, in detail. [10]
 8. Discuss briefly about Hypothesis Representation. [10]
- OR**
9. Explain about Decision Boundary, in detail. [10]
 10. What is clustering? Describe any two algorithms used to implement clustering. [10]
- OR**
11. Explain Bayesian method of reasoning. [10]