

Code No: M156AA**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year II Semester Examinations, March - 2024****AI APPLICATIONS****(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 do you mean by natural language understanding? [2]
- b) What is the basic unit of information in quantum computing? Explain briefly. [3]
- c) Define emotion recognition. [2]
- d) Give the applications of artificial intelligence in smart investing. [3]
- e) What do you mean by supply chain management? [2]
- f) What are various types of robotic process automation? [3]
- g) What is meant by a digital twin? [2]
- h) Give some examples of AI in security. [3]
- i) List an examples of smart systems. [2]
- j) What do you mean by a block chain? [3]

PART – B**(50 Marks)**

- 2.a) What are the various stages of analysis in NLP? Explain.
- b) What are common NLP tasks and techniques? Explain. [5+5]

OR

- 3.a) Explain how quantum computing can leverage AI.
- b) Describe quantum computing. [5+5]

- 4.a) What are various approaches for emotion recognition? Explain.
- b) Explain how AI is used in medical diagnosis? [5+5]

OR

5. Explain how AI techniques can improve customer services. [10]

6. Describe the steps for adopting robotic process automation in an organization for supply chain management. [10]

OR

- 7.a) List and explain the areas where robotic process automation shows the most promise in supply chain management.
- b) List the benefits of robotic process automation in supply chain management. [5+5]

8. What are various AI-optimized alternatives to the standard CPU? How is AI hardware different from regular hardware? What are some advantages of using AI hardware? [10]

OR

9. Explain about creation of digital twin using modeling methods. [10]

10. Explain how artificial intelligence and machine learning can provide smart solutions in the area of agriculture. [10]

OR

11. Explain the following:

a) AIML in 5G

b) Role of AI in smart cities.

[5+5]

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Use paper March-2024