

GUJARAT TECHNOLOGICAL UNIVERSITY

BE(MINOR)- SEMESTER-I&II EXAMINATION – SUMMER 2025

Subject Code:117AG01

Date:30-05-2025

Subject Name: Applications of AI

Time:02:30 PM TO 05:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

- Q.1** (a) Define Natural Language Processing. **03**
(b) Explain how AI is transforming customer service in business. **04**
(c) Describe the role of syntax and semantics in Natural Language Processing with suitable example. **07**
- Q.2** (a) Define qubits, superposition and entanglement. **03**
(b) Explain the concept of quantum gates. **04**
(c) Explain how Robotic Process Automation improves efficiency and accuracy in supply chain management. **07**
- OR**
- (c) Explain the challenges and limitations of implementing Robotic Process Automation in Supply Chain management. **07**
- Q.3** (a) Define predictive analytics in the context of healthcare. **03**
(b) Explain role of AI industry 4.0. **04**
(c) Describe the use of AI chatbots in customer support. **07**
- OR**
- Q.3** (a) Identify three major applications of AI in sales. **03**
(b) Explain role of AI healthcare 4.0. **04**
(c) Describe how AI can be utilized for smart investment analysis. **07**
- Q.4** (a) Define blockchain technology. **03**
(b) Explain the challenges faced in developing AI-based disease prediction systems. **04**
(c) Discuss how AI/ML technologies are being integrated into smart cities to improve urban living. **07**
- OR**
- Q.4** (a) Define smart solutions in the context of AI/ML. **03**
(b) Describe the importance of body language in emotion recognition. **04**
(c) Explain the concept of decentralized AI and its potential impact on data privacy. **07**
- Q.5** (a) Define AI-optimized hardware. **03**
(b) Explain the applications of AI in intrusion detection. **04**
(c) Explain the process of creating a digital twin using AI modeling techniques. **07**
- OR**
- Q.5** (a) Define information security. **03**
(b) Write a short note on GPU. **04**
(c) Discuss the key features and characteristics of AI-optimized hardware architectures. **07**
