

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2024

**Subject Code:3174203**

**Date:27-11-2024**

**Subject Name: AI in HealthCare & Fintech**

**Time:10:30 AM TO 01:00 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**

|            |                                                                                                          |           |
|------------|----------------------------------------------------------------------------------------------------------|-----------|
| <b>Q.1</b> | <b>(a)</b> Differentiate adaptive learning and reinforcement learning                                    | <b>03</b> |
|            | <b>(b)</b> Explain the use of AI in automotive industry.                                                 | <b>04</b> |
|            | <b>(c)</b> Discuss different AI solutions in maintaining health of family.                               | <b>07</b> |
| <b>Q.2</b> | <b>(a)</b> List different application of imaging data in health care.                                    | <b>03</b> |
|            | <b>(b)</b> Explain the consequence of amplification in AI system with example.                           | <b>04</b> |
|            | <b>(c)</b> How improper AI system could hurts patient and health system?                                 | <b>07</b> |
|            | <b>OR</b>                                                                                                |           |
|            | <b>(c)</b> Discuss AI solutions for public health management.                                            | <b>07</b> |
| <b>Q.3</b> | <b>(a)</b> Differentiate augmentation and automation.                                                    | <b>03</b> |
|            | <b>(b)</b> Explain a. Sensitivity b. Accuracy c. Precision d. Specificity                                | <b>04</b> |
|            | <b>(c)</b> Explain the use of AI in clinical care delivery.                                              | <b>07</b> |
|            | <b>OR</b>                                                                                                |           |
| <b>Q.3</b> | <b>(a)</b> List down advantages of clinical AI model maintenance.                                        | <b>03</b> |
|            | <b>(b)</b> Explain ROC curve and Precision recall curve in detail.                                       | <b>04</b> |
|            | <b>(c)</b> Explain the importance of careful validation in evaluating reliability of clinical AI.        | <b>07</b> |
| <b>Q.4</b> | <b>(a)</b> List down various data source to build AI model for deposits and lending in banking industry. | <b>03</b> |
|            | <b>(b)</b> Explain how real-time credit decision making is done using AI?                                | <b>04</b> |
|            | <b>(c)</b> Explain applications of AI in deposits and lending                                            | <b>07</b> |
|            | <b>OR</b>                                                                                                |           |
| <b>Q.4</b> | <b>(a)</b> Explain how mobile phone data can be helpful in determining credit worthiness of customer?    | <b>03</b> |
|            | <b>(b)</b> Explain how AI helps in value stores and access to credits in banking sector?                 | <b>04</b> |
|            | <b>(c)</b> Explain the importance of chatbots in the banking industry                                    | <b>07</b> |
| <b>Q.5</b> | <b>(a)</b> Explain the need of algorithmic trading and investment.                                       | <b>03</b> |
|            | <b>(b)</b> Explain predictive algorithm developed by I Know First.                                       | <b>04</b> |
|            | <b>(c)</b> Explain the use of AI in Investment Management in India                                       | <b>07</b> |
|            | <b>OR</b>                                                                                                |           |
| <b>Q.5</b> | <b>(a)</b> List advantages of using NLP in fintech industry.                                             | <b>03</b> |
|            | <b>(b)</b> Explain four main types of AI use cases in capital markets.                                   | <b>04</b> |
|            | <b>(c)</b> Explain ‘metaquant’ approach to redefine market players.                                      | <b>07</b> |

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