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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)

M.Tech Integrated

SEM: II - THEORY EXAMINATION (2025- 2026)

Subject: Intelligent Interaction Systems

Time: 2 Hours

Max. Marks: 50

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

15

1. Attempt all parts:-

- (1.1) "Let's think step by step." - This phrase is commonly used in: (C01,K1) 1
- (a) Zero-Shot
- (b) Few-Shot
- (c) Chain of Thought
- (d) Tree of Thought
- (1.2) "Hallucination" mean in the context of Gen-AI is When AI: (CO2, K1) 1
- (a) Model overheats during processing
- (b) Generates information that sounds right but is incorrect or fabricated
- (c) Refuses to respond to prompts
- (d) Model needs more training data
- (1.3) Multimodal AI improves performance by:(CO3, K1) 1
- (a) Ignoring extra data
- (b) Using only one data type
- (c) Combining multiple sources of information
- (d) Reducing computation to zero
- (1.4) The use of Version Control Engine is: (CO4, K1) 1
- (a) A gaming device
- (b) A system that stores, retrieves, and applies knowledge intelligently
- (c) A printer machine
- (d) A hardware component
- (1.5) The use of track changes feature in VCS is to: (CO4, K1) 1

- (a) Push
- (b) Erase
- (c) Stop
- (d) Type

2. Attempt all parts:-

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| (2.1) | The effective prompts used to improve the quality of responses generated by AI models. Describe. (CO1, K1) | 2 |
| (2.2) | Explain the concept and importance of Generative AI in engineering. (CO2, K1) | 2 |
| (2.3) | Define two uses of Conversational AI and Multi-modal AI each. (CO3, K1) | 2 |
| (2.4) | Illustrate the term: "Text-to-Speech." (CO3, K1) | 2 |
| (2.5) | "Critical Thinking Development using AI". Recognize the term "Critical" and state it's development in thinking using AI. (CO4, K1) | 2 |

SECTION-B

15

3. Answer any three of the following:-

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|-------|--|---|
| (3.1) | Working architecture of Large Language Models (LLMs). Sketch it's parameters and explain each of them in detail. (CO1, K3) | 5 |
| (3.2) | "You have a project to manage a YouTube Channel with 500+ videos, 1000+ shorts, and 1500+ Community posts". With the help of a diagram, discover the use, roles and steps of Fine-tuning while preparing and managing a Dashboard for this data. (CO2, K3) | 5 |
| (3.3) | "A digital library builds an AI assistant that first searches its database of books and research papers, then generates answers based only on the retrieved documents". Using this scenario, relate Retrieval-Augmented Generation (RAG). (CO2, K3) | 5 |
| (3.4) | Take an example of your choice, apply the Prompt Design Technique to it and draw the Prompt Design Framework. (CO3, K3) | 5 |
| (3.5) | Describe the "peer review workflow" in detail. With the help of a sketch show each level of the workflow. (CO4, K3) | 5 |

SECTION-C

20

4. Answer any five of the following:-

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|-------|---|---|
| (4.1) | Classify any two common prompt engineering techniques in detail with examples. (CO1, K2) | 4 |
| (4.2) | Summarize this sentence: "ChatGPT assists in learning". (CO1, K2) | 4 |
| (4.3) | Compare Generative AI and Traditional AI methods with examples. (CO2, K2) | 4 |
| (4.4) | Relate the methods of fine-tuning in AI with RAG while focusing on the fine-tuning methods. (CO2, K2) | 4 |
| (4.5) | Extract advantages and challenges of AI in education. (CO3, K2) | 4 |
| (4.6) | Explain adaptive learning systems using conversational AI. (CO3, K2) | 4 |
| (4.7) | Relate the use of GitHub in Project Management. Summarize all the steps in detail. (CO4, K2) | 4 |
| (4.8) | Summarize, "Version Control Systems" and relate the importance of Version Control System in software development. (CO4, K2) | 4 |