**Roll No:** | | | | | | | | | | | |

# PRESIDENCY UNIVERSITY

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Bengaluru

**Mid Term Examinations - October 2026**

**Date:** 05/10/2026 **Time:** 09:30 AM - 11:00 AM

**Course Code:** ISE3400 **Course Name:** Generative AI

**Semester:** Seventh Semester **Max. Marks:** 50 **Weightage:** 50%

| CO - Levels | CO1 | CO2 |
|---|---|---|
| Marks | 90 | 90 |

**PART A: Answer Following Questions. 10 M**

| Q.N. | Questions | M | CO | BT |
|---|---|---|---|---|
| 1 | Differentiate between Image-to-Text and Text-to-Image model. | 2 | CO1 | BT2 |
| 2 | List four essential best practices for prompt design. | 2 | CO1 | BT1 |
| 3 | Define sequential data? Identify two such data. | 2 | CO2 | BT1 |
| 4 | Define GPT? List its variants and applications. | 2 | CO1 | BT1 |
| 5 | Given a grayscale image of size 96X128, and a patch size of 16X16, calculate the number of tokens generated by patch tokenization. | 2 | CO2 | BT2 |

**PART B : Answer Any 1 Following Questions. 10 M**

| Q.N. | Questions | M | CO | BT |
|---|---|---|---|---|
| 6 | Discuss the different components of a prompt with examples. | 10 | CO1 | BT2 |
| 7 | Illustrate Chain Prompts and Aggregate Responses with end-to-end multi-step workflow examples. | 10 | CO1 | BT2 |

**PART C: Answer Any 1 Following Questions. 10 M**

| Q.N. | Questions | M | CO | BT |
|---|---|---|---|---|
| 8 | Compare zero-shot and few-shot prompting for a text Generative AI model using the following prompt and provide the structured JSON output in both scenarios:<br><br>**Prompt:** *Extract the camera specifications from the text below in JSON format.*<br>**Text:** *Canon EOS R10, 24.2MP sensor, 4K video, ISO 100-32000, 15 fps continuous shooting, Black.* | 10 | CO1 | BT2 |
| 9 | What is LLM? Write a description of at least five different popular LLM's with their applications. | 10 | CO1 | BT2 |

**PART D: Answer Any 1 Following Questions. 10 M**

| Q.N. | Questions | M | CO | BT |
|---|---|---|---|---|
| 10 | Explain the query/key/value vectors of the multi-headed attention used in the transformers with neat illustrations. | 10 | CO2 | BT2 |
| 11 | Explain in detail the four parameters that are used with text generative models. | 10 | CO2 | BT2 |

| PART E: Answer Any 1 Following Questions. 10 M | | | | |
|---|---|---|---|---|
| **Q.N.** | **Questions** | **M** | **CO** | **BT** |
| 12 | Apply the BPE encoding technique on the given text corpus and construct the vocabulary. [Continue until no further pair merging is possible]. List the constructed vocabulary and sequential merging rules.<br><br>**Text corpus:** "new new new newer newest newest lower lower lowest" | 10 | CO2 | BT3 |
| 13 | Illustrate why ANN cannot be used for sequential data task like language translation. Also mention how vanishing gradient problem can be solved in RNN. | 10 | CO2 | BT3 |