



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

InSem Examination-II Summer 2025	
Exam Seat No.:	
Academic Year: 2024-2025	Semester: VI
Class: TY	Program: B.Tech
Branch Code: COM/CSD	Pattern: 2022
Name of Course: Generative AI and Prompt Engineering	Course Code: COM223014(B)
Max. Marks: 30	Duration: 1.15 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 02 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last column indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

Marks CO

Question No. 1

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| 1 a) Explain any 3 Ethical Considerations for using Generative AI. | (3) | CO1 |
| 1 b) Explain the concept of Generative Adversarial Networks (GANs). | (4) | CO1 |

Question No. 2

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| 2 a) Explain Variational Autoencoder with diagram. | (4) | CO1 |
| 2 b) Explain the forward diffusion process in detail. | (4) | CO1 |

Group OR

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| 2 c) Explain any 2 applications of Generative AI in different industries. | (4) | CO1 |
| 2 d) Difference between AI and Generative AI. | (4) | CO1 |

Question No. 3

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| 3 a) Illustrate the two main stages of training a Large Language Model (LLM). Use examples to explain how each stage contributes to the final model's performance | (3) | CO2 |
| 3 b) Illustrate why positional embeddings are necessary in Transformer-based LLMs. Use an example to show how absolute and relative positional embeddings impact text understanding. | (4) | CO2 |

Question No. 4

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| 4 a) Illustrate why positional embeddings are necessary in Transformer-based LLMs. Use an example to show how absolute and relative positional embeddings impact text understanding. | (4) | CO2 |
| 4 b) Analyse how vector embeddings help LLMs capture semantic relationships. Why does naive numerical encoding of words fail in representing meaning? | (4) | CO2 |

Group OR

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| 4 c) Analyse why self-attention in Transformers improves long-range dependency understanding compared to traditional RNNs. | (4) | CO2 |
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- 4 d) Analyse the architectural differences, strengths, and limitations of OpenAI's GPT-3.5 Turbo, GPT-4, Google's Gemini, and Meta's LLaMA (4) CO2

..... **End of question paper**.....