**INT426 (Gen AI)**

**Section: CA-1 Set 7 Roll No:**

**Max Marks: 30 Duration: 40 mins**

Choose the correct answer and write in the cell given below.

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| **Q1** |  | **Q6** |  | **Q11** |  | **Q16** |  | **Q21** |  | **Q26** |  |
| **Q2** |  | **Q7** |  | **Q12** |  | **Q17** |  | **Q22** |  | **Q27** |  |
| **Q3** |  | **Q8** |  | **Q13** |  | **Q18** |  | **Q23** |  | **Q28** |  |
| **Q4** |  | **Q9** |  | **Q14** |  | **Q19** |  | **Q24** |  | **Q29** |  |
| **Q5** |  | **Q10** |  | **Q15** |  | **Q20** |  | **Q25** |  | **Q30** |  |

1. **What is the primary goal of Generative AI?**

a) Imitating human-like behavior b) Mimicking existing data c) Generating new, novel content d) Improving data classification

2. **Define Prompt Engineering in the context of Generative AI.**

a) Improving promptness in algorithms

b) Creating prompts to guide model output

c) Enhancing engineering processes using prompts

d) Designing prompts for data visualization

3. **What is the basic concept behind reinforcement learning feedback loop in Generative AI?**

a) Providing positive feedback to the model

b) Adjusting model parameters based on received rewards or penalties

c) Ignoring model output during training

d) Using unsupervised learning exclusively

4. **Explain the significance of understanding the fundamentals of generative models in AI applications.**

a) To enhance model interpretability

b) To facilitate efficient model training

c) To enable effective troubleshooting

d) To make informed decisions in model selection and application

**5. How does Prompt Engineering contribute to the controllability of generative models?**

a) By limiting model creativity

b) By allowing for more random outputs

c) By providing clear guidelines to the model

d) By restricting the use of prompts in training

6. **Describe a scenario where prompt engineering can be effectively applied to improve the quality of generated content.**

a) In medical diagnosis b) In image classification c) In text summarization d) In predicting stock prices

7. **Differentiate between supervised learning and reinforcement learning in the context of generative models.**

a) Supervised learning requires labeled data, while reinforcement learning uses rewards and penalties.

b) Supervised learning involves human-like decision-making, while reinforcement learning is fully automated.

c) Reinforcement learning is only applicable to images, while supervised learning works with text data.

d) Supervised learning requires no training data, while reinforcement learning relies on extensive datasets.

**8. How does prompt engineering address ethical considerations in the deployment of generative models?**

a) By promoting biased model outputs

b) By enabling unrestricted model creativity

c) By providing a means to guide model behaviour

d) By ignoring ethical considerations altogether

9. **Develop a hypothetical prompt that can be used to guide a language model in generating unbiased and inclusive content.**

a) Specify the desired output and evaluate the model's performance.

b) Identify potential biases and ethical concerns associated with the prompt.

c) Formulate the prompt to encourage unbiased and inclusive language.

d) Assess the impact of the prompt on the model's interpretability.

**10. Apply the concept of prompt engineering to improve the performance of a generative model in a specific application domain of your choice.**

a) Generate random prompts to observe the model's behaviour.

b) Define the application domain and tailor the prompt accordingly.

c) Avoid using prompts to allow for maximum model creativity.

d) Assess the model's performance without any prompt guidance.

**11. Utilize the concept of reinforcement learning feedback loops in the training of a generative model for a real-world application.**

a) Define the application scenario and establish rewards and penalties.

b) Implement training without considering feedback loops for quicker results.

c) Use generic rewards without customizing them for the application.

d) Neglect the iterative training process to save computational resources.

**12. Critically analyse the limitations and challenges associated with the application of prompt engineering in ensuring responsible AI.**

a) Propose alternative approaches without addressing limitations.

b) Identify potential biases but avoid evaluating the effectiveness of prompt engineering.

c) Evaluate the effectiveness of prompt engineering in addressing biases and ethical concerns.

d) Discuss the limitations without considering ethical implications.

**13. How does understanding the fundamentals of generative models contribute to effective model training in AI applications?**

a) By minimizing the need for model interpretation

b) By providing a basis for efficient model selection

c) By excluding the consideration of diverse data types

d) By avoiding the use of generative models in training

**14. In what way does prompt engineering contribute to the controllability of generative models?**

a) By limiting model creativity to predefined prompts

b) By hindering the model's ability to learn from diverse prompts

c) By discouraging the use of prompts in training

d) By introducing random elements into the model's output

**15. How does understanding the difference between supervised learning and reinforcement learning in generative models impact the design of AI applications?**

a) By eliminating the need for labelled data in both approaches

b) By recognizing the need for rewards and penalties in reinforcement learning

c) By assuming that generative models do not require any training data

d) By neglecting the concept of feedback loops in both learning approaches