Question Paper

French and Indian War

Instructions:
• Read all questions carefully before answering
• Write your answers clearly and legibly
• Manage your time effectively
• Show your work where applicable

Question 1: What is discussed in the document? ***(5 points)***

Question 2: How does the model's ability improve through training and fine-tuning cycles? ***(5 points)***

Question 3: What is discussed in the document? ***(5 points)***

Question 4: How do fine-tuning tasks like summarization, classification, sentiment analysis differ from each other? ***(5 points)***

Question 5: How does the training cycle of LLMs improve their performance over time through fine-tuning processes? ***(5 points)***

Question 6: What are the main differences between fine-tuning and in-context learning? ***(5 points)***

Question 7: How does instruction tuning of LLMs improve their performance, particularly through full parameter fine-tuning? ***(5 points)***

Question 8: What are some benefits of using instruction tuning for LLMs? *(5 points)*

Question 9: What is discussed in the document? *(5 points)*

Question 10: How can fine-tuning mitigate catastrophic forgetting in models? *(5 points)*

Answer Key

Answer 1: The primary purpose of pre-training is to enable the model to understand the overall structure and relationships within language data, allowing it to learn general language patterns and features that can be fine-tuned for specific tasks later on.

Answer 2: Through self-supervised learning, fine-tuning on datasets containing instructions and desired outputs, the model becomes better at interpreting and following user instructions.

Answer 3: Based on the document content

Answer 4: They are specific tasks that require different skills and abilities of the LLM model to perform well on those particular tasks such as understanding and manipulating language in order for accurate results.

Answer 5: Fine-tuning is a supervised process that leads to a new model, whereas in-context learning is considered an ephemeral process where the model remains unchanged but parameters change.

Answer 6: Fine-tuning is a supervised process that leads to a new model, whereas in-context learning is considered ephemeral.

Answer 7: Through instruction tuning, especially full parameter fine-tuning, LLMs can significantly enhance their performance by learning from large datasets of instructions and answers, allowing them to better understand context and generate more accurate responses. This process refines the model's parameters to optimize its ability to respond correctly to a wide range of questions and topics.

Answer 8: Instructiontuningshouldresultinimprovedperformance,moreaccuratereplies,andbetteralignmentwiththeuser's intent.

Answer 9: A model's ability to improve through training and fine-tuning cycles for task-specific applications like question answering.

Answer 10: By fine-tuning on multiple tasks, models learn to distinguish between tasks and avoid overwriting previously learned knowledge.