Birla Institute of Technology & Science, Pilani
Work Integrated Learning Programmes Division
Second Semester 2024-2025

Mid-Semester Test
(EC-2 Regular)

Course No.   : **SE ZG530**
Course Title   : **Design of Conversational Experiences**
Nature of Exam   : Closed Book
Weightage   : 30%
Duration   : 2 Hours
Date of Exam   : 22/03/2025 (AN)

| No. of Pages | = 2 |
| No. of Questions | = 6 |

Note to Students:
1. Please follow all the *Instructions to Candidates* given on the cover page of the answer book.
2. All parts of a question should be answered consecutively. Each answer should start from a fresh page.
3. Assumptions made if any, should be stated clearly at the beginning of your answer.

Q.No	Questions	Marks
1	How do Natural Language Processing (NLP) and Natural Language Understanding (NLU) contribute to Conversational AI?	4
2	What are the key components of bot branding, and why is it important for user engagement?	4
3	A Case Study on AI Virtual Assistant in Banking: HDFC Bank, one of India's leading financial institutions, introduced EVA (Electronic Virtual Assistant) to provide instant banking services and enhance customer engagement. EVA was designed to automate customer interactions, reduce dependency on human agents, and provide real-time responses to banking queries. EVA was integrated into HDFC's website, mobile app, and messaging platforms. The AI-powered assistant could handle over 5,000 banking queries, including checking account balances, loan eligibility, and product details. EVA utilized NLP and Machine Learning to improve its responses based on customer interactions. EVA provides: 1. Improved Customer Support: EVA reduced customer wait time by providing instant responses. 2 Enhanced Engagement: Over one million conversations were handled within the first six months of deployment. 3.Cost Savings: Automated responses led to reduced operational costs by minimizing the need for human agents. Despite its success, EVA faced challenges in handling complex banking queries that required human intervention. HDFC aims to enhance EVA by integrating Cognitive AI for better personalization and contextual memory to retain information across interactions. Based on the case study, provide the answers for the following questions: a) In what ways did EVA contribute to cost efficiency and operational improvement for HDFC Bank? b) What challenges does EVA face, and how can Cognitive Virtual Assistants enhance its capabilities? c) Do you think AI-powered virtual assistants like EVA can completely replace human banking agents? Why or why not?	6
4	How does AIML (Artificial Intelligence Markup Language) enable chatbot	6

	customization and response generation? Explain Variables for Personalization, Dynamic Responses and Response Redirection.	
5	Analyze the given multi-turn conversation and statement. Identify custom entities, system entities and intent for the following conversation and statement. 1.Conversation: • User: "Order me a large pepperoni pizza." • Bot: "Would you like extra cheese with that?" • User: "Yes, please. 2. "Schedule a meeting with the marketing team on Friday at 3 PM in Conference Room B."	4
6	a) How do chatbots contribute to market research and data analytics for businesses? b) Why is it important to wait until achieving product/market fit before charging users for a chatbot?	6

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