VIT
Vellore Institute of Technology
CHENNAI

Continuous Assessment Test(CAT) – II - OCTOBER 2024

Programme	:	B.Tech. CSE with all specializations	Semester	:	Fall Semester 2024-2025
Course Code & Course Title	:	BCSE415L- Human Computer Interaction	Class Number	:	CH2024250101762 CH2024250101763 CH2024250101767 CH2024250100657 CH2024250100769
Faculty	:	Dr. A. Ancy Micheal Dr. Deepika Roselind J Dr. Lakshmi Harika Palivela Dr. Sudha C Dr. V. Premanand	Slot	:	E2+TE2
Duration	:	90 minutes	Max. Mark		50

General Instructions:
- Write only your registration number on the question paper in the box provided and do not write other information.

Answer all questions

Q. No	Sub Sec.	Description	Marks
1.		A university is developing an online portal for students and faculty to support various academic tasks. Students can use the portal to submit assignments, access course materials, view grades, and communicate with faculty. Faculty can upload course content, grade assignments, provide feedback, and interact with students. Given the frequent use of the portal by both groups, their task priorities and mental models vary. i. Apply the Model Human Processor (MHP) to analyze how the cognitive, perceptual, and motor processes differ for students and faculty when performing tasks such as submitting assignments, viewing grades, and sending messages. **[5 Marks]** ii. Suggest and design appropriate interface selection options that can enhance interaction between faculty and students, considering the differences in their mental models. **[5 Marks]**	10
2.		Assume that you are a UX designer tasked with creating an intuitive interface for a travel booking app that allows users to explore and book various travel options, including flights, hotels, and rental cars. Your goal is to design the app's navigation and booking process while considering factors such as the number of clicks or taps required to navigate through different sections, the cognitive load associated with presenting travel options and packages,	10

and the sequence of user actions from searching for travel deals to finalizing a booking. The objective is to streamline the user experience, ensuring users can easily plan and book their trips with minimal frustration.

i. Utilize the Keystroke-Level Model (KLM) to analyze the interaction tasks for two specific scenarios. **[5 Marks]**

ii. Design the UI using KLM to optimize the sequence of steps required to perform the associated task for both novice and experienced users. **[5 Marks]**

3.		XYZ Technologies is partnering with ABC Bank to create a mobile banking application specifically designed for elderly users, recognizing the unique challenges this demographic faces in navigating technology. Many senior citizens have limited technical skills, which can make using traditional banking apps daunting. Additionally, this user group may have various accessibility needs, including poor vision, reduced capability, and cognitive limitations, which can hinder their ability to perform everyday banking tasks. i. Design wireframes for the following scenarios: checking account balance and chat support for real-time assistance if they encounter any issues during transactions. **[6 Marks]** ii. Discuss some key accessibility features and design considerations that should be prioritized to enhance usability for elders with varying levels of technical skills and specific accessibility needs. **[4 Marks]**	10
4.		Jake, a 20-year-old college student, is currently studying abroad in Spain as part of his exchange program. He is highly motivated to become fluent in Spanish to better immerse himself in the local culture and enhance his career prospects after graduation. However, Jake's packed schedule makes it hard for him to maintain regular language study sessions. Between attending lectures, completing assignments and participating in social activities with friends, he often finds himself sacrificing study time. Despite these challenges, Jake enjoys learning languages and seeks a solution that fits easily into his busy lifestyle. He prefers engaging, interactive content, like gamified lessons, quizzes and flashcards, that can be accessed on-the-go via a mobile app. He also appreciates real-world applications, such as practicing conversations with locals or using the language in authentic scenarios like ordering food, asking for directions or discussing daily events.	10

i. Discuss the user persona for Jake to ensure that the app design meets his specific needs as a busy college student. **[4 Marks]**

ii. Utilize storyboarding technique to visualize Jake's interactions with the language learning app throughout his day, highlighting essential moments where the app can support his learning and integration of Spanish into his daily routine? **[6 Marks]**

Assume you are a tester conducting a heuristic evaluation of two popular travel websites - Expedia and Travelocity. The testcase involves purchasing a round-trip flight from San Francisco (California) to Istanbul (Turkey). During this evaluation, you identified several usability problems across the two platforms.

Here are some of the issues you encountered:

1. On Expedia, you struggled to easily find baggage fee information, which was hidden under a "More info" section and took longer than expected to access.

2. On Travelocity, while selecting departure and arrival airports, you were unsure which airport to choose, as the system did not provide any hints or context about the most used airports for your route.

3. On Expedia, there was confusion regarding the flight rating system (e.g., "Satisfactory Flight (6.7/10)") and how the ratings were determined. There was insufficient information to help you understand what factors impacted the rating.

4. On Travelocity, you were left wondering whether you could change your ticket to a refundable option later, but there was no clear indication of whether this was possible during the booking process.

5. Upon entering incorrect payment details, the error message was vague and only said "Invalid input," without specifying what was wrong (e.g., card number, expiration date, etc.). This made it difficult for the user to understand how to fix the problem.

Utilize Nielsen's usability heuristics to identify the violations in this scenario. Also, explain how each heuristic can be applied to the specific problems you encountered on Expedia and Travelocity by composing suitable examples to overcome the issues faced by the user.

6.

10