Continuous Assessment Test (CAT) – II   October 2025

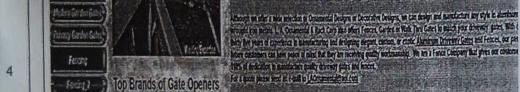| Programme	:	B.Tech	Semester	:	Fall 25-26
Course Code & Course Title	:	BCSE415L Human Computer Interaction	Slot	:	C1+TC1
Faculty	:	Dr. Brindha V Dr. Sridhar R	Class Number	:	CH2025260101468 CH2025260100551
Duration	:	90 Mins	Max. Mark		50

General Instructions: < Use this space to provide additional information such as graph sheet, data book etc.>

- Write only your registration number on the question paper in the box provided and do not write other information
- Use statistical tables supplied from the exam cell as necessary
- Use graph sheets supplied from the exam cell as necessary
- Only non-programmable calculator without storage is permitted

Answer all questions

Q. No		Description	Marks	CO	BT Level
		Part -A Answer all questions			
1		A government agency plans to digitize the post office savings bank account opening form shown below. Redesign the form's digital interface by applying the principles of visual pleasing composition in HCI. a. Identify at least five properties of visual pleasing composition that are most suitable for this below form. (5 Marks) b. Suggest and explain specific improvements in the redesign of the digital interface to enhance clarity, readability, and user experience. (5 Marks)	10	CO3	K3

Form-1   POST OFFICE SAVINGS BANK

SB-3

☐☐☐☐☐☐☐☐

Application for opening of an account (Saving/RD/TD/1/2/3)

ACCOUNT NUMBER (For office)

1. Name of Post Office: **LAJPAT NAGAR NEW DELHI**

2. Date of opening of   **11-03-2018**

3. Type of Account: **SSA**   SB/RD/TD(1/2/3/5year/1M15/SSA)

4. Amount of Initial deposit (In figures) **1000**
(In words)

     ONE THOUSAND ONLY

Photograph of depositor (Optional)

5. Amount of initial deposit: (In block letters)

☐

6. Date of birth of depositor:

     KRTI KKUREJA OYG

6. Residential address: **NEW DELHI - 110024**

7. Date of birth of **11-01-1982**

8. Date of birth of depositor: **9/11, DEFENCE COLONY ENDELHI-110024 NEW DELHI -**

8. Applicant's relation with minor: **15-11-2008**
Use Cheque book (in case of saving account only)   **NO**

2

You are hired as an HCI expert to design a mobile food delivery app like Swiggy/Zomato. The app must allow users to

- Browse restaurant categories
- Search for food
- Add items to a cart
- View the cart and checkout

a. Draw a low-fidelity wireframe layout of the Home Screen and Cart Screen, clearly label all major elements and apply suitable HCI screen design principles. (5 marks)

b. During development, the company noticed a difference in cost when projects were built with and without wireframing. Based on this information, calculate the total cost for both approaches and calculate the percentage of cost saved when wireframing was used and briefly explain what this result indicates about the value of wireframing in HCI -based design. (5 marks)

10	CO2	K4

Approach	Initial Development Cost	Redesign Cost after User Testing	Total Cost
Without Wireframing	Rs. 60,000	Rs. 25,000	?
With Wireframing	Rs. 60,000	Rs. 8,000	?

Part -B Answer all questions

3

A user must rename an important report file in a file manager (graphical). The current task sequence are as follows

1. Move right hand from keyboard to mouse.
2. Point to the file (single click to select).
3. Right-click the file to open context menu.
4. Move mouse to Rename menu item and click it.
5. Decide the new filename (pick wording and check for conflicts).
6. Type the new filename "Final_Report_2025" (16 characters; note uppercase and underscore count as normal keystrokes).
7. Press Enter to confirm.
8. Decision check: If a filename conflict dialog appears (same name already exists), the user must:

   8a. Mentally decide to overwrite (M), then press O (one keystroke mapped to "Overwrite") and press Enter (K).
   If they instead cancel and choose a different name, that branch is not considered here.

Assume the right-click counts as a P (pointing + click), and moving inside the context menu to Rename + click counts as a second P. Typing each character is one K. The conflict dialog (if it appears) requires one M then two keystrokes (O + Enter).

a) Identify where the M operator(s) should be inserted in the task sequence, and briefly justify your answer. (3 marks)

b) Compute the total estimated execution time if no filename conflict occurs during renaming. Show all calculations clearly. (9 marks)

c) Compute the total estimated time if a filename conflict occurs and the user chooses to overwrite (use the conflict branch). Show calculations. (3 marks)

| 15 | CO3 | K3 |

You are hired as an HCI expert to review the design of a company's website shown above. The company aims to attract new customers, but users have reported several complaints about the site.

a. Identify and explain three positive aspects of the current interface design, providing justification for each. (4 marks)

b. Perform a critical analysis of the interface by identifying seven poor design elements that reduce usability and user experience. For each element, propose a suitable redesign improvement based on HCI screen design principles. (7 marks)

c. Create a simple sketch to visually represent your proposed improved design layout for the website. (4 marks)

4	15	C04	K3