



End Term (Odd) Semester Examination December 2024

Roll no.....

Name of the Course and semester: B.Tech(CSE) & 7th

Name of the Paper: Human Computer Interaction

Paper Code: TCS 756

Time: 3 hour

Maximum Marks: 100

Note:

- (i) All the questions are compulsory.
- (ii) Answer any two sub questions from a, b and c in each main question.
- (iii) Total marks for each question is 20 (twenty).
- (iv) Each sub-question carries 10 marks.

Q1.

(2X10=20 Marks)

- a. Trace the evolution of screen design from early text-based systems to modern graphical user interfaces. How have advances in technology influenced screen design over the years? (CO1)
- b. Why has the popularity of graphics in user interfaces become so important in modern technology? Discuss how the use of graphics enhances usability and user engagement? (CO1)
- c. Discuss the concept of 'Direct Manipulation' in user interface design. How does this concept improve the user's interaction with a system? Provide examples? (CO1)

Q2.

(2X10=20 Marks)

- a. Explain the design process in creating user interfaces. How do designers balance user needs with technical constraints?(CO2)
- b. Why is human consideration critical in the design of user interfaces? Discuss the ethical implications of designing for users with different needs and abilities? (CO2)
- c. What role does user research play in the design process? How can designers incorporate user feedback into the development of more effective and user-friendly interfaces?(CO2)

Q3.

(2X10=20 Marks)

- a. Explain the importance of screen planning in the design process, including defining the screen's purpose, determining its target audience, and ensuring it supports the user's tasks. Discuss how understanding the goals of the screen informs decisions on layout, content placement, and interactivity?(CO3)
- b. Describe the techniques designers use to organize screen elements, such as grouping related items, maintaining consistency in positioning, and following established design patterns. Explain how a logical, consistent arrangement of elements improves user understanding and interaction with the system?(CO3)
- c. Discuss how the order in which information is presented can impact user behavior, comprehension, and task completion speed. Explain the principles behind effective data sequencing, such as the importance of putting the most critical or frequently used information at the forefront and minimizing cognitive load?(CO3)

Q4.

(2X10=20 Marks)

- a. Explain the role of multimedia (audio, video, and animations) in Windows UI. What challenges can arise from its use. How can excessive multimedia use negatively impact the performance and usability of Windows applications?(CO4)
- b. Discuss the significance of color schemes in Windows UI. How can colors impact usability and accessibility. What are the challenges in choosing colors for a Windows interface? How can these challenges be mitigated?(CO4)



End Term (Odd) Semester Examination December 2024

c. How does screen size and resolution influence the design of screen-based controls in Windows? Provide examples. Describe how Windows adapts its interface based on the type of device (e.g., PC, tablet, smart phone)? (CO4)

Q5.

(2X10=20 Marks)

a. Compare and contrast various software specification methods like use case diagrams, UML, and flowcharts. Discuss how precise specifications can improve the quality of a software tool. Provide examples?(CO5)

b. Differentiate between graphical user interfaces (GUI) and command-line interfaces (CLI) with examples. How does the design of an API influence the usability of software tools for developer? (CO5)

c. Explain the role of Integrated Development Environments (IDEs) in software development. Discuss the advantages of using version control systems like Git in collaborative software development? (CO5)