

Reg. No. :

Question Paper Code : 50409

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023.

Seventh Semester

Computer Science and Engineering

CS 8079 – HUMAN COMPUTER INTERACTION

(Common to: Computer and Communication Engineering/Information Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are mental models and why are they important in interface design?
2. Define ergonomics. Give an example.
3. You are shopping on Amazon for refill water filters for your refrigerator. You see that there is an option to save money if you “Subscribe and Save”, but you don’t know specifically whether they will charge you on the day that you order, or on the day your subscription order will ship. There is no way to inform you about the specific details of using this feature. Which heuristic does this interface violate?
4. How does making a call differ when using Cell phone and Smart phone? Identify the kinds of user, type of activity and context of use.
5. Log file analysis is one way of doing remote usability evaluation for web sites. What are the advantages and disadvantages of this approach?
6. List out the methods of Participatory design.
7. Give the different categories of mobile platforms.
8. A payment system is not sending an error message when the transaction is not accepted. This makes the user to falsely believe an order is placed even though no money is deducted from the bank account. What is this action? Explain.

9. Differentiate modal and non-modal overlays.
10. By applying Fitt's law, which of the following two operations would typically be faster? Given $a = 0.8$, $b = 0.2$, $\log 5 = 0.69$, $\log 3 = 0.47$.
- (a) moving the pointer into a 10 mm target from 50 mm away, or
- (b) moving the pointer into a 30 mm target from 90 mm away.

PART B — (5 × 13 = 65 marks)

11. (a) Briefly explain the different stages of Donald Normans' model of Interaction.

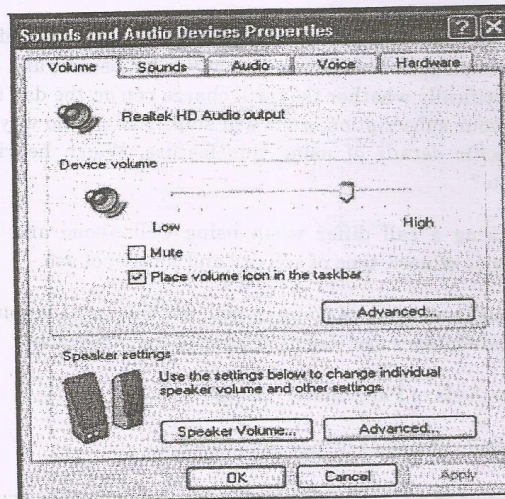
Or

- (b) Differentiate deductive reasoning, inductive reasoning and abductive reasoning.

12. (a) State and Explain Norman's Seven Principles for Transforming Difficult Tasks into Simple Ones with examples.

Or

- (b) Identify the screen based controls that are used in the following UI screen, and explain each. Describe whether the proper guidelines are followed in designing this window.



13. (a) Explain GOMS Model. Design the GOMS Model for withdrawing money from ATM without using card.

Or

- (b) (i) Point out the six key stages to carry out in a CUSTOM analysis?
(ii) Who is a stakeholder? Outline the types of stake holders and appraise the stakeholders for an Travel Management System.
14. (a) Discuss in detail the layers of the mobile ecosystem.

Or

- (b) Discuss on Mobile Information Architecture with neat illustrations.
15. (a) Briefly explain Overlays, Inlay and Virtual Pages.

Or

- (b) Explain the combination of object selection and Toggle selection with suitable example. Analyze its advantages and disadvantages in detail.

PART C — (1 × 15 = 15 marks)

16. (a) Provide a usability specification for an electronic meetings diary or calendar. First identify some of the tasks that would be performed by a user trying to keep track of future meetings, and then complete the usability specification assuming that the electronic system will be replacing a paper-based system. What assumptions do you have to make about the user and the electronic diary in order to create a reasonable usability specification?

Or

- (b) PsychScope is an app designed to help youth dealing with depression better manage their mental illness. Through missions and friendly reminders, the user is taught new coping strategies, encouraged to track their mood and sleep patterns, and is able to involve their personal circle of supporters through their check-ins with the app. PsychScope is the ultimate digital self-care app.
- (i) Design a low fidelity wireframe for each screen of the task sequences you want to prototype. (5)
- (ii) List out the Intuitive UX design ideas that could be implemented. (5)
- (iii) Identify the main stakeholders for this system, categorize them and describe them and their activities, currently and with regard to the proposed system, using the CUSTOM framework. (5)