Total No. of Questions : 10]

SEAT No. :

P3003

[Total No. of Pages : 3

[5669]-595

T.E. (Information Technology)

HUMAN-COMPUTER INTERACTION

(2015 Pattern)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8 and Q9 or Q10.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) Explain any 2 of the following HCI principles in brief. **[5]**

i) Understand the task

ii) Reduce Memory Load

iii) Strive for Consistency

iv) Prevent Errors/Reversal of Action

b) State and explain UCD principles. **[5]**

OR

Q2) a) What are mental models, and why are they important in interface design? **[5]**

b) Observe skilled and novice operators in a familiar domain, for example touch and 'hunt-and-peck' typists, expert and novice game players, or expert and novice users of a computer application. **[5]**

What differences can you discern between their behaviors?

Q3) a) How does making a call differs when using **[5]**

i) Cell phone

ii) Smart phone?

Consider the kinds of user, type of activity and context of use.

b) What can a system designer do to minimize the memory load of the user? **[5]**

P.T.O.

OR

Q4) a) Suggest ideas for an interface which uses the properties of sound effectively? **[5]**

b) When systems are not designed to match the way people actually work, then users end up having to do 'work around'. Discuss. **[5]**

Q5) a) What is design? What is the golden rule of design? Illustrate the process of interaction design. **[8]**

b) Ascenario is an idealized but detailed description of a specific instance of human-computer interaction (HCI). Scenarios specify how users carry out their tasks in a specified context. Write scenarios for purchasing an airline ticket. **[8]**

Note : Generate scenarios to cover a wide range of situations, not just the most common ones. Include problem situations that will test the system concept, not just straightforward scenarios.

OR

Q6) a) Explain HCI design process with neat diagram. **[8]**

b) What is a prototype? Explain different types of rapid prototyping techniques. **[8]**

Q7) a) Explain Prototyping with hill-climbing approach. **[8]**

b) Explain Nielsen's ten heuristics. **[8]**

OR

Q8) a) Discuss Shneiderman's eight golden rules of interface design with suitable examples. **[8]**

b) Write short note on : **[8]**

i) Wire-Framing.

ii) Model-View-Controller (MVC) Framework.

Q9) a) Complete the cognitive walk-through example for the video remote control design. **[9]**

b) Discuss applications meant for computer mediated communication. **[9]**

OR

Q10) a) In order to clean the house **[9]**

1. get the vacuum cleaner out
2. fix the appropriate attachment
3. clean the rooms
   - 3.1 clean the hall
   - 3.2 clean the living rooms
   - 3.3 clean the bedrooms
4. empty the dust bag
5. put the vacuum cleaner and attachments away

Plan 0: do 1 – 2 – 3 – 5 in that order
when the dust bag gets full do 4

Plan 1: do any of 3.1, 3.2 or 3.3 in any order
depending on which rooms need cleaning.

For this HTA description of vacuum cleaning, present the same information in a diagrammatic form.

b) Consider the activity of making a telephone call. Record the actions in an HTA diagram or textually. Start off simply, assuming you know the number to dial, but then add more complicated situations : finding the number in an address book, or what to do when the number is engaged. **[9]**

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