

[Total No. of Questions: 12]

[Total No. of Printed Pages: 3]

UNIVERSITY OF PUNE

[4363]-269

T. E. (Information technology) Examination – 2013

HUMAN COMPUTER INTERACTION AND USABILITY (2008 Course)

[Time: 3 Hours]

[Max. Marks: 100]

Instructions:

- 1 *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 from Section I and Q7 or Q8, Q9 or Q10, Q11 or Q12 from Section II*
- 2 *Answers to the two sections should be written in separate answer-books.*
- 3 *Black figures to the right indicate full marks.*
- 4 *Neat diagrams must be drawn wherever necessary.*
- 5 *Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
- 6 *Assume suitable data, if necessary.*

SECTION -I

- | | | | |
|-----|---|---|---|
| Q.1 | A | Explain significance of sensory memory in interface design. | 8 |
| | B | List and explain five human senses and identify those that are most important to HCI. | 8 |

OR

- | | | | |
|------|---|--|----|
| Q.2 | A | Define Ergonomics. Explain with example | 8 |
| | B | What is reasoning? Discuss with example inductive versus Deductive Reasoning. | 8 |
| Q. 3 | A | Describe how HCI affects use of Fully Automatic Washing Machine with respect to:
i) the aim of the program (what is used for)
ii) describe its interface (picture of the screen)
iii) describe its interaction (how it is used) | 10 |
| | B | Describe the interaction framework introduced in Human-Computer Interaction. Explain how it can be used to explain problems in the dialogue between a user and a computer. | 8 |

OR

Q. 4 A Discuss how social environment influences the interactions with the computer? What effect does the organization (commercial or academic) to which you belong have on the interaction? 10

 B Describe briefly four different interaction styles used to accommodate the dialog between user and computer. Specify advantages and disadvantages of each interaction style. 8

Q. 5 A How do “golden rules” and heuristics help interface designers take account of cognitive psychology? illustrate your answer with examples. 8

 B Compare and contrast expert reviews with usability testing 8

OR

Q. 6 A Why is context important in selecting and applying guidelines and principles for interface design? illustrate your answer with examples. 8

 B A practical usability engineering process that can be incorporated into the software product development process to ensure the usability of interactive computer product is presented. Explain your view regarding usability engineering life cycle for online hotel booking management system. 8

SECTION II

Q. 7 A What is DECIDE? List and explain unique phase DECIDE framework. 10

 B Compare : Formative Evaluation versus Summative Evaluation. 8

OR

Q. 8 A Discuss the following in respect of designing a web site. 10

- i) Browsing
- ii) Search facilities.

 B What are design efforts and problems faced by developers for HutchWorld application of framework 8

Q. 9 A Hierarchical Task Analysis (HTA) is used to describe 8

the interactions between a user and a software system.
Draw and explain HTA to online bus reservation system.

- B Give any two diagrammatic or textual notations used to design dialogs in effective user interface. Justify your notations with respective examples. 8

OR

- Q. 10 A What is Cognitive Model? Discuss interface for a train ticket vending machine. 8

- B Draw and describe HTA to cook food (e.g. rice) using micro oven 8

- Q. 11 A Compare – Augmented Reality versus Virtual Reality. 8

- B Discuss Augmented reality use for Aircraft. 8

OR

- Q. 12 A Ubiquitous Computing is a post-desktop model of human-computer interaction in which information processing has been thoroughly integrated into everyday objects and activities. Justify 8

- B Discuss design issues of groupware applications. 8