

**T.E. (Information Technology)**

**HUMAN COMPUTER INTERACTION AND USABILITY**

**(2008 Pattern)**

*Time : 3 Hours]*

*[Max. Marks :100*

*Instructions to the candidates:*

- 1) Answer Q1 or Q2; Q3 or Q4; Q5 or Q6; Q7 or Q8; Q9 or Q10 and Q11.*
- 2) Draw neat diagrams whenever necessary.*
- 3) Figures to the right side indicate full marks.*
- 4) Assume suitable data if necessary.*

**SECTION-I**

**Q1) a)** What is ergonomics? Discuss importance of human factors in human-computer interaction design. **[8]**

b) What are models of interaction? Explain any one model in details. **[8]**

OR

**Q2) a)** Differentiate between human short-term memory and long-term memory. **[8]**

b) What is interaction design? What are goals of interaction design? **[8]**

**Q3) a)** What are different paradigms of interactions? Explain any one of the following in details. **[10]**

i) pervasive computing

ii) invisible computing

iii) weavable computing

b) Discuss the practical issues in interaction design process. **[8]**

OR

**Q4) a)** Describe briefly four different interaction styles used to accommodate the dialog between user and computer. Specify advantages and disadvantages of each interaction style. **[10]**

b) What is WIMP interface? Discuss its advantages and disadvantages. **[8]**

**Q5) a)** With respect to Human Diversity how to accommodate user with disabilities and elderly users while designing user interfaces. **[8]**

b) Evaluate microsoft power point interface on the basis of the 'Eight golden rules of interface design'. **[8]**

OR

**Q6) a)** What is usability Engineering? Explain principles that support usability. **[8]**

b) Why is context important in selecting and applying guidelines and principles for interface design? Illustrate your answers with examples. **[8]**

## **SECTION-II**

**Q7) a)** What is DECIDE? List and explain unique phases of DECIDE framework. **[8]**

b) Compare: Formative versus Summative Evaluation of user interfaces. **[8]**

OR

**Q8) a)** What is Web-usability? What are benefits of web-usability? Discuss the guiding principles of web-usability. **[8]**

b) Explain any two evaluation paradigms for UI design. **[8]**

**Q9) a)** What is the purpose or aims of Task Analysis? Explain knowledge based task analysis. **[8]**

b) Explain GOMS model by taking appropriate task. Also discuss the issue of closure in terms of your GOMS description. **[8]**

OR

**Q10)** a) Explain any one cognitive model of goal or task hierarchy. [8]

b) Give any two digrammatic or taxtual notations used to design dialogs in effective user interface. Justify your notations with examples. [8]

**Q11)** Write short notes on ANY THREE of following: [18]

a) Augmented Reality.

b) Groupware systems.

c) Ubiquitous computing.

d) Information and data visualization.

*EEE*