



T.E. (Information Technology) (Sem. – II) Examination, 2010
HUMAN COMPUTER INTERFACE
(2003 Course)

Time : 3 Hours

Max. Marks : 100

- Instructions :** 1) Answer Question 1 or 2, 3 or 4, and 5 or 6 from Section – I.
and Question 7 or 8, 9 or 10, and 11 or 12 from Section – II.
2) Answers to the **two** sections should be written in **separate** books.
3) Neat diagrams must be drawn **wherever** necessary.
4) Figures to the **right** indicate **full** marks.
5) Assume suitable data, if **necessary**.

SECTION – I

1. a) Explain following terms related to the human short-term memory. 8
Digit Span, Chunking, Regency Effect, Closure
b) Explain the difference between slips and mistakes with the help of suitable example. 8
- OR
2. a) What are some design concerns pertaining to cultural and international diversity? 8
b) Compare life critical system against commercial computer systems with reference to goals of user interface design. 8



3. a) List and explain seven stages of action model. 8
- b) With the help of Norman's Model of interaction explain the process of execution evaluation cycle. What is meant by gulf of execution and gulf of evaluation with respect to this model ? 10

OR

4. a) Explain GOMS and Keystroke level model. 8
- b) As screens grow larger, some designers are tempted to increase the number of menu items displayed at once. Give three strategies for organizing the layout and justify them briefly based on user tasks and knowledge. 10
5. a) Explain three Pillars of Interface Design. 8
- b) Describe the user interface development process, starting at the earliest stages and continuing up to the point when the interface is complete. Name the steps in this process and briefly describe what happens. Briefly discuss the importance of each step, what specific things we must pay the most attention to, and how information relevant to the step is gathered, analysed, or used. If steps are repeated describe : why, what changes, and when you stop. 8

OR

6. Write short note on (any two) : 16
- a) Ethnographic observation
- b) Scenarios and Patterns
- c) Affordances and Design



SECTION – II

7. a) Explain different dialog design notations. 8
- b) A different human/computer interface would be needed for each of the following users : 8

- i) a young child in a primary school,
- ii) a blind person,

For each user describe and justify an appropriate human/machine interface for mobile handheld devices.

OR

8. a) Give one good feature and one bad feature of each of these interaction styles : 8
- i) question and answer
 - ii) natural language
 - iii) direct manipulation
 - iv) virtual reality

- b) What are the factors you would need to take into account when designing a screen layout for a database application ? 8

9. a) Explain how following CSCW systems are useful for co-operative working . 8
- 1) Meeting Rooms
 - 2) Shared Drawing Surfaces.

- b) You are supposed to design an interface for your college web site. Discuss important design issues that need to be considered in designing a web page. 8

OR



10. a) Explain an importance of hypertext over linear paper document. List important considerations for creating a good hypertext document. 8
- b) Enumerate any four error messages encountered by you in GUI based interactive system. What guidelines can you suggest for presenting these error messages in an effective style? 8
11. a) Some of the favorite techniques of web pages these days include automatic scrolling text boxes, moving marquees, and constantly running animations (e.g. for icons). Discuss these features in terms of web design guidelines. 8
- b) Speech recognition systems for Personal Computers are now becoming more affordable and useable. 10
- i) State two advantages to a PC user of a speech recognition system.
- ii) Give two different tasks for which a PC user could take advantage of speech recognition.
- iii) Speech recognition systems sometime fail to be 100 per cent effective in practise.

Give three reasons why this is so.

OR

12. Write short notes on (any three) : 18
- a) Shared Editors
- b) Multimedia document searches
- c) Organization design to support usability
- d) Comparisons of pointing devices.



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