



Seat No.	
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**T.E. (Information Technology) (Semester – II) Examination, 2014**  
**HUMAN COMPUTER INTERACTION AND USABILITY**  
**(2008 Pattern)**

Time : 3 Hours

Max. Marks : 100

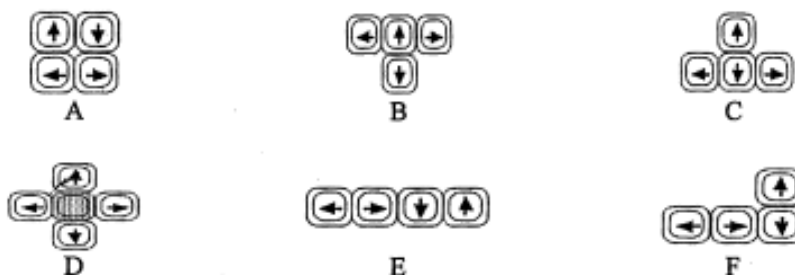
- Instructions :** 1) Answer Question 1 or 2, 3 or 4, 5 or 6 from Section – I and Question 7 or 8, 9 or 10 and 11 or 12 from Section – II.  
2) Answers to the **two** Sections should be written in **separate** books.  
3) **Neat** diagrams must be drawn **wherever** necessary.  
4) Figures to the **right**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

SECTION – I

1. a) Suggest ideas for an interface, which uses the properties of sound effectively. 6  
b) How does making a phone call differ when using :  
– Public phone box  
– A Cell Phone ?  
How have these devices been designed to take into account  
a) The kind of users  
b) Types of activity being supported  
c) Context of use ? 6  
c) What is ergonomics ? Explain its significance in interface design. 6

OR

2. a) Consider following six layouts for cursor keys



- Comment on each of these layouts. Which one do you think is more suitable ? Also explain why it is more suitable ? 8  
b) Compare STM and LTM of human with respect to capacity, access time and forgetting. 6  
c) Explain Inductive reasoning and Abductive reasoning with example. 4

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3. a) What are the different life cycle models in HCI ? Explain the any one lifecycle model in detail. 8
- b) Explain following WIMP interface elements with respect to any text editor.
- Icons
  - Menus
  - Toolbars
  - Dialog boxes. 8

OR

4. a) List different interaction styles. Explain command line interface and menus with advantages and disadvantages. 8
- b) Explain interaction design process. 8
5. a) Explain “Eight golden rules of interface design”. 8
- b) Explain
- Scenarios
  - Expert reviews. 8

OR

6. a) What is the distinction between a process-oriented and a structure oriented design rationale technique ? Would you classify psychological design rationale as process or structure oriented ? Why ? 6
- b) With respect to Human Diversity how to accommodate users with disabilities and elderly users. 6
- c) Consider two different ATM machines. One giving away the cash and then ejecting the bank card and the other ejecting the bank card first and then dispensing the cash. Which is a better interface from interaction design point of view ? Justify. 4



SECTION – II

7. a) Explain Hutch World case study evaluation framework. **12**  
b) Explain any two evaluation paradigms for UI design. **4**

OR

8. a) Explain DECIDE evaluation framework. **10**  
b) What usability standards are necessary in designing home page for e-governance websites ? **6**
9. a) Explain different dialog design notations. **8**  
b) Explain GOMS model by taking appropriate task. Also discuss the issue of closure in terms of your GOMS description. **8**

OR

10. a) Produce a high-level Hierarchical Task Analysis (HTA) showing how you would find information on a website. Assume the site has a search facility as well as normal links. **8**  
b) Explain status event analysis with example. **8**
11. a) Consider following two shared application-  
– Shared PCs and shared window systems  
– Shared editors.  
What are the main issues that need to be addressed in the design of these applications ? **8**  
b) Explain centralized and replicated architectures of groupware, identify the strengths and limitations of each. **6**  
c) What is CSCW ? Explain how it is applicable to education. **4**

OR

12. Write a short note (**any three**) : **18**  
1) Information and data visualization  
2) Augmented reality  
3) Any three devices for virtual reality  
4) Ubiquitous computing.
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