

KATHMANDU UNIVERSITY  
End Semester Examination  
August, 2018

Marks scored:

Level : B.E./B.Sc.  
Year : III

Course : COMP 341  
Semester: II

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date AUG 24 2018

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Tick [✓] the most appropriate answer.

- \_\_\_\_\_ is a usability test in which a member of the test team sits in the room with the participant and actively probes the participant's understanding of whatever is being tested.  
 Co discovery  Active intervention  
 Trunk test  Expert review
- Over a short period of time, we find it easier to remember the string of numbers "404 894 6743" because \_\_\_\_\_.  
 Numbers are easier to remember than arbitrary characters.  
 The grouping of the numbers is significant  
 Ten numbers is not that many to have to remember from working memory.  
 None of the above
- Which of the given statements correctly defines efficiency in terms of one of the usability goals?  
 It is a very general goal and refers to how good a system supposed to do.  
 It refers to the way a system supports users in carrying out their tasks.  
 It involves protecting the users from dangerous conditions.  
 It involves protecting the users from undesired situations.
- Which of the following is not one of the goals of HCI?  
 To produce usable systems  
 To produce safe systems  
 To produce non-functional systems  
 To improve effectiveness of the systems
- Which of the following is true about Short-Term memory?  
 Short-term memory has a limited capacity  
 Short-term memory has an unlimited capacity  
 Short-term memory has no capacity  
 Short-term memory has large but limited capacity
- Which of the following requires less cognitive effort than others?  
 Listening  Speaking  Hearing  Moving

7. How the visually impaired persons can interact with outside world?  
 Sense of sight  
 Sense of hearing  
 Both sense of touch and sense of hearing  
 Sense of touch
8. Taking some real world concept to perform different tasks that represent some idea, inside the computer is type of \_\_\_\_\_.  
 Direct Manipulation                       Desktop Metaphors  
 Central Processing Unit                       Virtual Reality
9. A small picture that is used to represent a closed window is said to be a/an:  
 Menu                       Toolbar                       status bar                       icon
10. A mouse button invites pushing by the way it is physically constrained in its plastic shell, is an example of \_\_\_\_\_ Design Principle.  
 Visibility                       Affordance                       Mapping                       Feedback
11. Choice of operations and services are offered on the screen through \_\_\_\_\_  
 Pointers                       Toolbars                       Menus                       Virtual Reality
12. \_\_\_\_\_ are dragged down from the title at the top of the screen.  
 Pull Down Menus                       Main Menus  
 Icons                       Buttons
13. \_\_\_\_\_ are individual and isolated regions within display that can be selected by the user to invoke specific operations.  
 Buttons                       Pointers                       Menus                       Windows
14. Using icons on the desktop to represent operations is a type of \_\_\_\_\_ constraint.  
 Physical                       Logical                       Cultural                       Psychological
15. \_\_\_\_\_ minimizes errors.  
 Affordance                       Visibility                       Constraints                       Mapping
16. A \_\_\_\_\_ is usually a collection of icons those are reminiscent of the purpose of the various modes.  
 Button                       Pointer                       Palette                       Title bar
17. Which are the most significant senses for the average person when it comes to interacting with a computer?  
 Sight and hearing                       Hearing, touch and smell  
 Hearing and touch                       Sight, hearing and touch
18. You can load a VCR tape the right way because of \_\_\_\_\_.  
 Physical constraints                       Logical constraints  
 Cultural constraints                       Mental constraints
19. Which interface system is based on the question/answer dialogue?  
 Command Line Interfaces                       Query interfaces  
 Menus                       Natural Language Interfaces
20. What will be the gulf of execution if the user is able to formulate and perform the actions easily?  
 Smaller                       Greater                       Balanced                       Null

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Time : 2 hrs. 30 mins.

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F. M. : 40

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SECTION "B"

[6 Q. × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. Explain the differences between good and poor interaction design. Justify your answer based on the *design principles* of human computer interaction.
2. Mention the pros and cons of applying *ethnographic observation* while developing the user interface.
3. Explain why it is important to involve users in system development. Justify your answer according to *usability goals*.
4. Explain how *different data gathering techniques* may be used during the requirements activity.
5. What are the different types of interfaces? Explain with suitable examples.
6. Explain what is involved in doing *heuristic evaluation* and various kinds of *walkthrough*.
7. Describe the major activities involved during the *process of interaction design*.

SECTION "C"

[2 Q. × 8 = 16 marks]

Attempt *ANY TWO* questions.

8. Explain how to do *user testing*. Develop a scenario and mention the steps you will implement to do user testing in your mini research project. Discuss how and why a user testing differs from an experiment. Discuss the contribution of *user testing* to *usability testing*.
9. Describe the *GOMS* model, the *Keystroke level* model and *Fitts' law*, and discuss when these techniques are useful? Relate it with your mini research project.
10. Explain what *evaluation* is, why *evaluation* is important and when to use different evaluation techniques and approaches. Discuss the three main evaluation approaches and evaluation methods i.e. *usability testing*, *field studies* and *analytical evaluation*.

