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**OFFICE OF THE DEPUTY PRINCIPAL**  
**ACADEMICS, STUDENT AFFAIRS AND RESEARCH**

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# **UNIVERSITY EXAMINATIONS**

## **2021 /2022 ACADEMIC YEAR**

### **FORTH YEAR FIRST SEMESTER REGULAR EXAMINATION**

## **FOR THE DEGREE OF BACHELOR OF COMPUTER SCIENCE**

**COURSE CODE: COM 407**

**COURSE TITLE: USER INTERFACE DESIGN**

**DATE: 1<sup>ST</sup> JANUARY, 2022      TIME: 0900 – 1200 HRS**

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### **INSTRUCTION TO CANDIDATES**

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# COM 407

## REGULAR EXAM

### COM 407: USER INTERFACE DESIGN

STREAM: COM (COMPUTER SCIENCE)

DURATION: 3 Hours

#### INSTRUCTION TO CANDIDATES

Answer **ALL** questions from section A and any **THREE** from section B.

#### SECTION A [24 MARKS] ANSWER ALL QUESTIONS.

##### QUESTION ONE [12 MARKS]

- a) Define the following [2 marks]
  - i. User interface
  - ii. Human computer interaction
- b) State human characteristics considered in designing with user interface [5 marks]
- c) Explain briefly about the Characteristics of GUI [5 marks]

##### QUESTION TWO [12 MARKS]

- d) List the difference between long term memory and short term memory [2 marks]
- e) Explain five principles for designing the display of a user-interface (10 Marks)

#### SECTION B [36 MARKS]

##### QUESTION THREE [12 MARKS]

- a) One argument against the current interface design of a popular word processor is that it has all the functional menu items appearing together which causes the interface to be too complex. This complexity results in a confusing and frustrating experience for novice users. An alternative design is to provide different levels of functional complexity, so users can choose the level that is suitable for them, then advance to higher level as they get familiar with the tool, thus feel more comfortable and learn more efficiently. You are asked to conduct usability testing to compare these two designs.
  - i. Which type of usability testing should be used for this situation? Explain why. (4 Marks)
  - ii. List and briefly describe the steps in the usability testing you would conduct. (8 Marks)

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### QUESTION FOUR [12 MARKS]

- a) An airline company is designing a new on-line reservation system. They want to add some direct-manipulation features. For example, they would like customers to click a map to specify the departure cities and the destinations, and to click on the calendar to indicate their schedules. From your point of view,
- Explain three benefits of the new idea compared with their old system, which required the customer to do the job by typing text. **(6 Marks)**
  - Explain three problems of the new idea compared with their old system, which required the customer to do the job by typing text. **(6 Marks)**

### QUESTION FIVE [12 MARKS]

- Compare command language interfaces to direct manipulation interfaces **(8 marks)**
- Two problems must be addressed in interactive systems design, state these problems **[4 marks]**

### QUESTION FIVE [12 MARKS]

- State any three expert review methods used to evaluate user interface Designs. **[ 12 marks]**

### QUESTION SIX [12 MARKS]

- In Practice, the make-up of any design team depends on the kind of interactive product being built. Who do you think would need to be involved in developing:
  - A public kiosk providing information on the location of for instance restaurants, coffee shops, the cinema or any other exhibits available in a large shopping mall. **[6 marks]**
  - An Interactive Website to accompany a TV Series. **[6 marks]**

### QUESTION SEVEN [12 MARKS]

- Give four benefits of direct manipulation over command line interfaces **[4 marks]**
- Briefly describe the four pillars of Interaction Design. **[8 marks]**

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