



**THE CO-OPERATIVE UNIVERSITY OF KENYA**  
**SPECIAL/SUPPLEMENTARY EXAMINATION NOVEMBER-2024**

**EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS AND INFORMATION  
TECHNOLOGY**

**UNIT CODE: BCSC 3126**  
**UNIT TITLE: HUMAN COMPUTER INTERACTION**

**DATE: NOVEMBER, 2024**  
**TIME: 3:00 PM – 5:00 PM**

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**INSTRUCTIONS:**

- Answer question ONE (compulsory) and any other TWO questions

**QUESTION ONE**

**(30 MARKS)**

- (a). Explain each of the following terms as used in HCI:
- (i) Flexibility; [2 Marks]
  - (ii) Affordance. [2 Marks]
- (b). John, a system analyst designed a human computer interface for a system. Explain **three** goals of this interface. [6 Marks]
- (c). A newly established supermarket would like to design a human computer interface for its inventory control system.
- (i) Outline four metaphors that could be used during the design. [4 Marks]
  - (ii) Describe **three** design principles the supermarket could apply. [6 Marks]
- (d). With the aid of appropriate examples, explain the acronym WIMPS as used in human computer interaction. [4 Marks]
- (e). Usability is at the core of Human Computer Interaction. Describe **six** indicators of a system which has high usability. [6 Marks]

## QUESTION TWO

[20 MARKS]

- (a). Outline **three** types of individual differences that a system designer would consider when designing a human computer interface. [3 Marks]
- (b). Explain each of the following terms as used in human computer interaction:
  - i. External consistency; [2 Marks]
  - ii. Usability engineering; [2 Marks]
  - iii. Universal design. [2 Marks]
- (c). Mosh Hospital has implemented a new human computer interface. Outline **five** general guidelines that the hospital could have considered when creating the interface. [5 Marks]
- (d). Peter is a visually challenged student in a local university that does most of its communication through the student portal. Describe **three** aids the university could have included in the portal to enable him use the system comfortably. [6 Marks]

## QUESTION THREE

[20 MARKS]

- (a) Outline **two** challenges of speech recognition as a human computer interface. [2 Marks]
- (b) Describe **two** methods used to ease reading of numbers in a computer. [4 Marks]
- (c) Explain the term cognition as used in human computer interface. [2 Marks]
- (d) Describe **three** ways through which cognition improves human computer interaction. [6 Marks]
- (e) Students at Maisha University have been complaining about the performance of their portal. Describe **three** methods that could be used to evaluate the portal. [6 Marks]

## QUESTION FOUR [20 MARKS]

- (a). Outline **four** factors considered when selecting an interaction style. [4 Marks]
- (b). Distinguish between *command based* and *form fill* user interfaces. [4 Marks]
- (c). A student management information system uses a menu-based user interface. Explain **three** types of menus that could be incorporated in the system. [6 Marks]
- (d). i Explain the term *fit* as used in human computer interaction. [2 Marks]

- ii A system analyst carried out a task analysis in order to design a user interface. Explain **two** types of this analysis. [4 Marks]

**QUESTION FIVE [20 MARKS]**

- (a) Outline **four** professionals who could work together to create a good user interface.  
[4 Marks]
- (b) Many users of system prefer to select options rather than type the information.  
(i) Outline **three** reasons that could have led to this preference. [3 Marks]  
(ii) Explain **two** limitations of such a system. [4 Marks]
- (c) Differentiate between *perception* and *representation* as used in human computer interaction.  
[4 Marks]
- (d) With the aid of a well labelled diagram, illustrate the Don Norman's model of interaction.  
[5 Marks]

