



The Co-operative University of Kenya

END OF SEMESTER EXAMINATION MAY-2022

**EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
COMPUTER SCIENCE(YR III SEM II), BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY(YR III SEM II), AND BACHELOR OF BUSINESS
INFORMATION TECHNOLOGY (YR III SEM I)**

UNIT CODE: BCIT 3126/BCSC 3219

UNIT TITLE: HUMAN COMPUTER INTERACTION

DATE: 12TH MAY, 2022

TIME: 2:00 PM – 4:00 PM

INSTRUCTIONS:

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

QUESTION ONE

- (a) Define the following terms:
- Human Computer Interaction (HCI).
 - Ergonomics.
- [2 Marks]
- (b) Describe the five design principles derived from the Gestalt theory.
- [10 Marks]
- (c) Information is placed in LTM from STM (working memory) through “rehearsal”. Describe the following optimization processes.
- Total time hypothesis
 - distribution of practice effect
- [4 Marks]
- (d) Systems can be evaluated through user participation. Compare and contrast laboratory studies and field studies in system evaluation.
- [8 Marks]
- (e) Explain three (3) types of optical illusions.
- [6 Marks]

QUESTION TWO

- (a) Briefly explain 5 disciplines that contribute to the study of HCI.
- [5 Marks]
- (b) Define the term Usability and describe three (3) benefits of usability evaluation.
- [10 Marks]
- (c) Is multi-modality always a good thing? Justify your answer.
- [5 Marks]

QUESTION THREE

- (a) Describe three elements of the Gulf of Execution.

[6 Marks]

(b) Define the term GOMS and explain what GOMS task analysis involve.

[14 Marks]

QUESTION FOUR

(a) Citing relevant examples, discuss the Nielsen's 10 usability Heuristics.

[10 Marks]

(b) Explain ten (10) principles of User Centered Design (UCD).

[10 Marks]

QUESTION FIVE

(a) Describe the Norman's execution–evaluation cycle 7 stage interaction model.

[14 Marks]

(b) Explain how the Norman's model above can be used to demonstrate why some interfaces cause problems to their users.

[6 Marks]