



(Knowledge for Development)

KIBABII UNIVERSITY

(KIBU)

**UNIVERSITY EXAMINATIONS
2020/2021 ACADEMIC YEAR**

**END OF SEMESTER EXAMINATIONS
YEAR THREE SEMESTER TWO EXAMINATIONS**

**FOR THE DEGREE OF
BACHELORS OF SCIENCE
(INFORMATION TECHNOLOGY)**

COURSE CODE : BIT 324

COURSE TITLE : HUMAN COMPUTER INTERACTION INFORMATION

DATE: 05/10/2021

TIME: 2.00 P.M. – 4.00 P.M.

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO

QUESTION ONE (COMPULSORY) [30 MARKS]

- a) Define Human Computer Interaction. **[2 Marks]**
- b) HCI can be used in all disciplines wherever there is a possibility of computer installation explain four areas where HCI can be implemented with distinctive importance. **[4 Marks]**
- c) In the study of Human computer Interaction a computer system comprises various elements, each of which affects the user of the system, briefly explain these elements **[4 Marks]**
- d) Human Computer Interaction Information is received and responses given via a number of input and output channels explain the following Channels. **[6 Marks]**
- i) Visual channel
 - ii) Auditory channel
 - iii) Haptic channel.
- e) Discuss what we are likely to see in future Human- Computer interfaces. **[6 Marks]**
- f) The most abstract design rules are general principles, which can be applied to the design of an interactive system in order to promote its usability. Explain the Main three principle to follow. **[3 Marks]**
- g) Explain at least FIVE key principles described by ISO standard that will ensure a design is user centered. **[5 Marks]**

QUESTION TWO [20 MARKS]

- a) Discuss the FOUR basic activities of interaction design **[4 Marks]**
- b) Ben Shneiderman proposed a collection of principles that are derived heuristically from experience and applicable in most interactive systems after being properly refined, extended and interpreted Explain Shneiderman's "eight golden rules of interface design.

[8 Marks]

- c) Robustness concerns itself with supporting the user in successfully accomplishing an action with the system and assessment of the action. Explain the four various principles to be applied to support a system robustness. **[8 Marks]**

QUESTION THREE [20 MARKS]

- a) Explain the six interface design “design of everyday things” by Don Norman **[6 Marks]**
- b) Discuss the Seven Principles of Universal Design **[7 Marks]**
- c) With the Aid of a well labeled diagram explain the four distinct phases involved in User centered design. **[7 Marks]**

QUESTION FOUR [20 MARKS]

- a) What is Participatory Design? **[1 Mark]**
- b) Explain the THREE principles for user-centered approach. **[3 Marks]**
- c) Learnability revolves around the features of an interactive system that allow novice users to understand how to use it at first and then how to attain a maximal level of performance. Learnability makes use of various factors to familiarize a user to a new system explain at least four factors of learnability. **[8 Marks]**
- d) Give the distinction between a process-oriented and a structure-oriented design rationale technique. **[8 Marks]**

QUESTION FIVE [20 MARKS]

- a) Task Analysis plays an important part in User Requirements Analysis, with the aid of a well labeled diagram explain task analysis. **[4 Marks]**
- b) Flexibility refers to the diversity of ways in which the user and the system exchange information. This can be achieved through categorized ways, Explain at least four categorized ways of flexibility. **[8 Marks]**
- c) Explain the Forces shaping the nature of future computing as used in Human Computer interaction. **[8 Marks]**