(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR

SPECIAL/SUPPLEMENTARY EXAMINATIONS
YEAR FOUR SEMESTER TWO EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE
(COMPUTER SCIENCE)

COURSE CODE : CSC 422

COURSE TITLE : HUMAN COMPUTER INTERACTION

DATE: 11/10/2018   TIME: 11:30 A.M – 1:30 P.M

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE [COMPULSORY] [30 MARKS]

a) Define the following terms:

    i. User interface. [2 Marks]

    ii. Human computer interface (HCI). [2 Marks]

b) Discuss the challenges that are faced by HCI designers as a result of technology changes?

    [6 Marks]

c) User support comes in a number of styles. List six approaches to user support [6 Marks]

a) Explain the meaning of the following terms in the context of HCI (4 Marks)

    i. Cognition [2 Marks]

    ii. Attention [2 Marks]

d) Describe three design principles in relation to Human Computer Interaction [6 Marks]

e) Differentiate between input and output devices giving two examples for each. [4 Marks]

QUESTION TWO [20 MARKS]

a) i. Define the term "Metaphor". [2 Marks]

    ii. State and briefly explain the assumptions of the two theories of perception. [4 Marks]

b) State and briefly explain the factors that affect HCI Usability [4 Marks]

c) Differentiate a verbal metaphor from an interface metaphor. Giving an example for each.

    [4 Marks]

d) Briefly explain any four principles for the design of a Dialogue structure [4 marks]

e) Explain the concept of keystroke Level Model (KLM) [2 marks]

QUESTION THREE [20 MARKS]

a) Discuss the principles affecting learnability of a system [5 marks]

b) Explain the principles of GOMS [5 marks]

c) List and discuss briefly any *five* Norman's ten heuristics [10 marks]

QUESTION FOUR [20 MARKS]

a) State and explain three guidelines to catching user's attention when structuring information at
   the interface.   [6 Marks]

b) Discuss the characteristics of a usable system   4 marks]

c) Describe approaches to task analysis in the context of HCI Design   [8 Marks]

d) Define ergonomics   [2 marks]

QUESTION FIVE [20 MARKS]

a) Describe the HCI usability engineering lifecycle.   [10 Marks]

b) List any seven factors to be considered when selection an evaluation technique in HCI

                                                                                           [7 Marks]

c) Differentiate between Interaction Design versus Interface Design   [3 Marks]