



*(Knowledge for Development)*

**KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS  
2021 / 2022 ACADEMIC YEAR**

**SPECIAL / SUPPLEMENTARY EXAMINATIONS  
YEAR THREE SEMESTER TWO EXAMINATIONS**

**FOR THE DEGREE OF  
COMPUTER SCIENCE**

**COURSE CODE : CSC 323**

**COURSE TITLE : HUMAN COMPUTER INTERACTION**

**DATE: 17/11/2022**

**TIME: 11.00 A.M – 01.00 P.M**

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**INSTRUCTIONS TO CANDIDATES**

**ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS**

### QUESTION ONE [30 MARKS]

- a. Explain the main concerns of Human computer interaction. [4 marks]
- b. Why human Computer interaction is important in software design? [4 marks]
- c. Explain which people (activity | context | technology) characteristics are used when analyzing the user needs? [4 marks]
- d. The company has decided to go ahead with the development of an extended web-site to provide access via mobile devices, such as 3G telephones. Write a brief technical report describing how you would conduct a summative evaluation to assess the usability of a final implementation. [5 marks]
- e. Explain what is involved in analyzing product's context of use. [3 marks]
- f. You have the mockup and you want to assess whether your design is <specific usability attribute (for example, ease to learn, etc.). What evaluation method would you choose and why. [4 marks]
- g. HCI has had various impact. Explain three ways how HCI has had impact on the culture. [6 marks]

### QUESTION TWO [20 MARKS]

- a. Explain Norman's seven principle for transferring difficult task to simple one in design. [7 marks]
- b. Explain the core characteristics of a user-centered design [4 marks]
- c. Explain factors that influence the choice of evaluation techniques. Outline the approaches used for evaluating through expert analysis? [5 marks]
- d. You are required to perform a heuristics evaluation: explain briefly the aim, in which project phases can be applied, who is involved, what is prepared for the evaluation and the outcomes. [4 marks]

### QUESTION THREE [20 MARKS]

- a. What are the common interface styles? [4 marks]
- b. Explain the meaning of Learnability and outline its principles. [4 marks]
- c. Discuss the main categories of usability design rules and their relation with user experience levels. [4 marks]
- d. Usability evaluation is aimed at finding usability problems in the user interface. Discuss the three types of user evaluation techniques. [6 marks]
- e. Highlight any four different kinds of graphic menu. [2 marks]

#### QUESTION FOUR [20 MARKS]

- a. Differentiate between mockups and prototypes as used in the study of Human Computer Interaction. [4 marks]
- b. Explain in details the concept of user and how it affects the design of system interaction modes. [4 marks]
- c. Describe TWO techniques that you would use to elicit user requirements for a new e-commerce site selling electrical appliances, such as fridges and televisions, to the public. [4 marks]
- d. State two guidelines on designing the user interface. [2 marks]
- e. d) Usability is only one part of HCI, but has been one of the main goals. Discuss three importance of HCI. [6 marks]

#### QUESTION FIVE [20 MARKS]

- a. What are the constraints of Physical design and engagement? [2 marks]
- b. Explain the use of the following concepts:
  - i. Gestalt theory [2 marks]
  - ii. Metaphor [2 marks]
- c. Analyze usability testing: the aim, in which development phases can be applied, who is involved, what is prepared for the evaluation, what outcomes can be obtained. [6 marks]
- d. State any FOUR Forces shaping HCI. [4 marks]
- e. Differentiate think aloud and constructive interaction as used in user testing formats. [4 marks]