



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR EDUCATION**

**SCIENCE BBA**

**4<sup>TH</sup> YEAR 2<sup>ND</sup> SEMESTER 2015/2016 ACADEMIC YEAR**

**SPECIAL RESIT**

**MAIN CAMPUS**

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**COURSE CODE: SCS 416**

**COURSE TITLE: HUMAN COMPUTER INTERACTION**

**EXAM VENUE: LAB 1  
SCIENCE**

**STREAM: BBA, BED ARTS AND BED**

**DATE : 05/05/ 2016**

**EXAM SESSION: 9.00 – 11.00 AM**

**TIME: 2.00 HOURS**

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**INSTRUCTIONS:**

- 1. Answer Question 1 (Compulsory) and ANY other two questions**
- 2. Candidates are advised not to write on the question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

### QUESTION ONE (30 MARKS)

- a) Explain the following terms as used in Human Computer Interaction
  - i) Human [2Marks]
  - ii) Computer [2Marks]
  - iii) Affordance [2Marks]
  - iv) Visibility [2Marks]
  - v) Ergonomics [2Marks]
- b) Describe the steps in the Usability Engineering Lifecycle [10Marks]
- c) List and briefly explain **Principles of Learnability**. [10Marks]

### QUESTION TWO (20 MARKS)

- a) Briefly explain the meaning of the following terms:
  - i) Task analysis [2Marks]
  - ii) Metaphor [2Marks]
- b) Briefly discuss any two techniques for doing task Analysis. [4Marks]
- c) Briefly discuss any four reasons why design is difficult when building human computer interaction systems. [4Marks]
- d) List and discuss any two main groups of techniques used in knowledge representation for adaptive help system. [6Marks]

### QUESTION THREE (20 MARKS)

- a) Discuss the principles affecting learnability of a system [5Marks]
- b) Explain the principles of GOMS [5Marks]
- c) List and discuss briefly Nielsen's ten heuristics [10Marks]

### QUESTION FOUR (20 MARKS)

- a) List any seven factors to be considered when selecting an evaluation technique in HCI [7Marks]
- b) Explain using an illustration the process of design [5Marks]
- c) Explain the concept of WIMP [2Marks]
- d) Why is multiplicity of theory and perspective important in evaluating CSCW? [4Marks]
- e) Outline any two principles of use of colors in graphic design [2Marks]

### QUESTION FIVE (20 MARKS)

- a) Discuss the characteristics of a usable system [4Marks]
- b) Differentiate the terms Groupware and Computer Supported Cooperative Work (CSCW) [4Marks]
- c) Interface evaluation is the process of assessing the usability of an interface and checking that it meets user requirements. Briefly explain any **two** advantages and **two** disadvantages of laboratory studies evaluation technique. [4Marks]
- d) List any four HCI goals [4Marks]
- e) The focal point of Gestalt theory is the idea of "grouping," or how we tend to interpret a visual field or problem in a certain way. Explain briefly the **four** main factors that determine grouping. [4Marks]