



**SOUTH EASTERN KENYA UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2020/2021**

**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF  
SCIENCE IN COMPUTER SCIENCE**

**CSC 208: USER- CENTRED DEVELOPMENT AND EVALUATION**

**DATE: 13<sup>TH</sup> JULY, 2021**

**TIME: 11.00-1.00 PM**

**INSTRUCTIONS TO CANDIDATES**

- a) Answer **ALL** questions from section A(Compulsory)
- b) Answer **ANY TWO** questions from section B

**SECTION A (30 Marks) - Compulsory**

**Question One**

- a) Define the following terms: **[2 Marks]**
  - i) User-Centered Design
  - ii) Usability Engineering
- b) Highlight four principles of contextual inquiry. **[4 Marks]**
- c) An interactive system is regarded as successful if it enhances usability. The successful interaction systems serve as paradigms for the development of future products. Describe five paradigms for interaction. **[5 Marks]**
- d) State four key aspects of user-centered design. **[4 Marks]**
- e) One of the techniques used in the usability life cycle is task analysis. In relation to task analysis, explain the concept of GOMS. **[4 Marks]**

- f) In user centered design, all "development proceeds with the user as the center of focus." Explain. [3 Marks]
- g) 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 the four main factors that determine grouping. [4 Marks]
- h) Highlight any four Nielsen's Usability Heuristics principles for commercial web sites. [4 Marks]

**SECTION B (40 Marks): ANSWER ANY TWO QUESTIONS**

**Question Two**

- a) Usability has three components. With relevant examples, explain these components. [6 Marks]
- b) Describe Norman's Model of Interaction. [7 Marks]
- c) i) Define the term task analysis. [1 Mark]
- ii) Explain the following types of task analysis: [6 Marks]
- I. Cognitive Task Analysis
  - II. Logical Analysis
  - III. Hierarchical task analysis

**Question Three**

- a) A dialog is studied at three levels. Explain these levels. [6 Marks]
- b) Usability evaluation focuses on how well users can learn and use a product to achieve their goals. Explain three types of evaluation. [6 Marks]
- c) "User research methods aim to identify the target users and understand their needs and behaviors". Explain four of these research methods. [8 Marks]

**Question Four**

- a) "Contextual Design has seven parts." Explain these parts. [7 Marks]
- b) Describe any seven Shneiderman's golden rules of interface design giving examples in each case. [7 Marks]
- c) The CATWOE criteria contain the elements considered when formulating definitions of a desired system. Identify the CATWOE elements in the project of automating the library system of SEKU University. [6 Marks]