**KABARAK**  **UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**SEMESTER THREE 2018/2019 ACADEMIC YEAR**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE**

**COMP 468: USER INTERFACE DESIGN**

**STREAM: Y4S2 TIME:**

**EXAMINATION SESSION: JULY 2019 DATE:**

**INSTRUCTIONS TO CANDIDATES**

1. **Answer Question 1 and any other two questions in the answer booklet provided.**
2. **Do not write on your question papers. All rough work should be done in your answer booklet.**
3. **Clearly indicate which question you are answering.**
4. **Write neatly and legibly.**
5. **Edit your work for language and grammar errors.**
6. **Follow all the instructions in the answer booklet**

**SECTION A: (Compulsory) TOTAL MARKS FOR THIS SECTION IS 30.**

**QUESTION ONE [30 MARKS]**

1. Cognition is been described in terms of specific kinds of processes. Discuss these processes

(3 Marks)

1. Discuss THREE techniques that the evaluator may use to find the usability problems in a system interface (3 marks)
2. Summarize FIVE importance of usability in the user interface design (5 marks)
3. By the aid of a diagram, elaborate on User interface design processes (5 marks)
4. Explain in details user interface design principles as implied in the principles of user interface design (3 marks)
5. Summarise what you understand by the phrase “user interface” as used in the principles of user interface design (3 marks)
6. Explain why Heuristic evaluation is a subjective technique for finding usability problems in HCI (4 marks)
7. Discuss TWO possible ways that the designer may introduce the system to the user interface design evaluators (4 marks)

**SECTION B. TOTAL MARKS FOR THIS SECTION IS 40.**

**ANSWER ANY TWO QUESTIONS FROM THIS SECTION. EACH QUESTION IN THIS SECTION CARRIES 20 MARKS.**

**QUESTION TWO [20 MARKS]**

1. Discuss SIX goals of studying human factors issues in computer and information systems

(6 Marks)

1. Describe any FOUR characteristics of graphical user interfaces (4 Marks)
2. Paraphrase what you understand by Stakeholder analysis in the principles of user interface design. . (3 Marks)
3. Program developers who are full of egocentric style of the past must yield to humility and a genuine desire to accommodate to the user's skills, wishes, and orientation. Discuss giving reasons why system developers or programmers who refuse to hear this call may find themselves irrelevant in these competitive market (3 Marks)
4. Discuss FOUR interactive systems design issues and how they can be handled (4 Marks)

**QUESTION THREE [20 MARKS]**

1. Motivations for human factors in design of interactive systems arises from the complementary recognition of how poorly designed many current systems are and from the genuine desire to create elegant systems which effectively serve the users. This increased concern emanates from various systems’ primary sources. Generates any FOUR of these systems primary sources (4 Marks)
2. Explain FOUR advantages of the Graphical user interfaces (4 Marks)
3. Discuss the Nine Golden rules of dialogue interface development as advanced by Molich and Nielsen (1986) (8 Marks)
4. The GOMS model was developed in an attempt to model the knowledge and cognitive processes involved when users interact with systems. Explain an acronym GOMS (4 Marks)

**QUESTION FOUR [20 MARKS]**

1. Describe any FIVE interaction styles you are familiar with in the principles of user interface design (5 Marks)
2. Outline THREE types of systems evaluators in the principles of user interface design

(3 Marks)

1. "Once a determination has been made of the user community and the benchmark set of tasks, then the Measurable human factors issues can be examined”. Discuss these measurable human factor issues as used in the principles of user interface design (5 Marks)
2. Discuss any FOUR primary design goals for Interactive computers systems for life critical applications, industries/commercial uses and personal computing in the office or at home

(4 Marks)

1. Describe cognition and its TWO major kinds (3 Marks)

**QUESTION FIVE [20 MARKS]**

1. Discuss what you understand by prototype and why it’s needed in the user interface design

(4 Marks)

1. Outline what you understand by Human-Machine Interface as used in the principles of user interface design. (3 Marks)
2. Discuss on types of possible number of evaluators that can be deployed during system evaluation in the principles of user interface design (3 Marks)
3. Elaborate in details FOUR usability engineering principles as implied in user interface design (4 Marks)
4. Discuss why it is important for the presence of a precise acceptance test plan in the principles of user interface design (3 Marks)
5. Explain on why a perceptive system developers would employ psychologists for experimental testing, sociologists for evaluating organizational impact, and educational psychologists for refining training procedures, and psychiatric social workers for guiding user consultants or customer service personnel (3 Marks)