JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

DEPARTMENT OF INFORMATION SYSTEMS AND TECHNOLOGY

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS ADMINISTRATION WITH IT

4th YEAR 2ND SEMESTER 2019/2020 ACADEMIC YEAR

MAIN/NAMBALE/KISII CAMPUS

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COURSE CODE: SCS 416

COURSE TITLE: HUMAN COMPUTER INTERACTION

EXAM VENUE: **STREAM: LR**

DATE: 15/08/19   **EXAM SESSION: 2.00 – 4.00PM**

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)   HCI is the study of how people interact with computers and to what extent computers are or are not developed for successful interaction with human beings. Briefly explain its three parts.   (3 Marks)

(b)   Define the following terms as used in HCI:

       i) Heuristics evaluation   (1 Marks)

       ii)Usability Engineering   (1 Marks)

       iii)Prototyping   (1 Marks)

(c)   Information provided by the HCI should not be incomplete or unclear or else the application will not meet the requirements of the user. State any FOUR display guidelines that may help in this   (4 Marks)

(d)   You have been tasked with the responsibility of designing a data entry interface for the university accounting department. What are some of the data entry guidelines that may assist you in this respect?   (4 Marks)

(e)   A dialog is the construction of interaction between two or more beings or systems. In HCI, a dialog is studied at three levels. State and explain these levels.   (3 Marks)

(f)   Visual materials have assisted in the communication process since ages in form of paintings, sketches, maps, diagrams, photographs. Explain the following concepts as sued in visual thinking:

i) Visual Immediacy   (2 Marks)

ii) Visual Impetus   (2 Marks)

iii) Visual Impedance   (2 Marks)

(g)   Discuss on any THREE challenges of Computer-Supported Cooperative Work. (3 Marks)

(e)   State four goals of HCI   (4 Marks)

QUESTION TWO (20 MARKS)

(a) State four interaction styles that can be adopted in designing interfaces in HCI (4 marks)

(b) Discuss three advantages of Graphical User Interface (GUI) in respect to human computer interaction?   (6 marks)

(c) Elaborate on the following concepts as used in interactive system design.

        i) Usability Study   (3 Marks)

        ii) Usability Testing   (2 Marks)

        iii) Acceptance Testing   (2 Marks)

(d) Highlight THREE limitations of User Centered Design approach   (3 Marks)

QUESTION THREE (20 MARKS)

(a) Design dialogs to yield closure' is one of the golden rules of interface design. Discuss the meaning of this golden rule? (3 marks)

(b) System users often judge a system by its interface rather than its functionality. State whether you support the statement or not and explain the reason of your choice? (3 marks)

(c) Discuss the following terms in respect to windows system design?
   i. Operating system (5 marks)
   ii. Desktop (5 marks)

(d) Give the difference between conceptual design and physical design? (4 marks)

QUESTION FOUR (20 MARKS)

a) Explain the five components of usability design.   (5 Marks)

b) Software testing helps in finalizing the software application or product against business and user requirements. List any five reasons for software testing   (5 Marks)

c) A metaphor is a picture, symbol or concept, that we use to make interaction simpler and more intuitive. State any five metaphors used in HCI   (5 Marks)

d) Gestalt psychologists developed a set of principles to explain perceptual organization, or how smaller objects are grouped to form larger ones. Outline five gestalt principles   (5 Marks)

QUESTION FIVE (20 MARKS)

a) There are many professionals who have defined how to design a good user interface. Jakob Nielsen defined Golden Rules. List any five of them.   (5 Marks)

b) Briefly distinguish between recall and recognition as used in HCI   (4 Marks)

c) Explain the concept of Fitts law with a view of HCI and ergonomics   (5 Marks)

d) Explain the waterfall method in its capturing a set of activities in HCI modeling   (6 Marks)