



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL INFORMATICS AND INNOVATIVE SYSTEMS
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR
OF BUSINESS ADMINISTRATION
4TH YEAR 2ND SEMESTER 2013/2014 ACADEMIC YEAR
CENTRE: MAIN SCHOOL BASED

COURSE CODE: SCS 416

COURSE TITLE: HUMAN COMPUTER INTERACTION

EXAM VENUE: AH

STREAM: BBA

DATE: 16/12/2013

EXAM SESSION: 2.00 – 4.00 PM

TIME: 2 HOURS

Instructions:

- 1. Answer question 1 (Compulsory) and ANY other 2 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.**

1.

QUESTION ONE (COMPULSORY)

[30 MARKS]

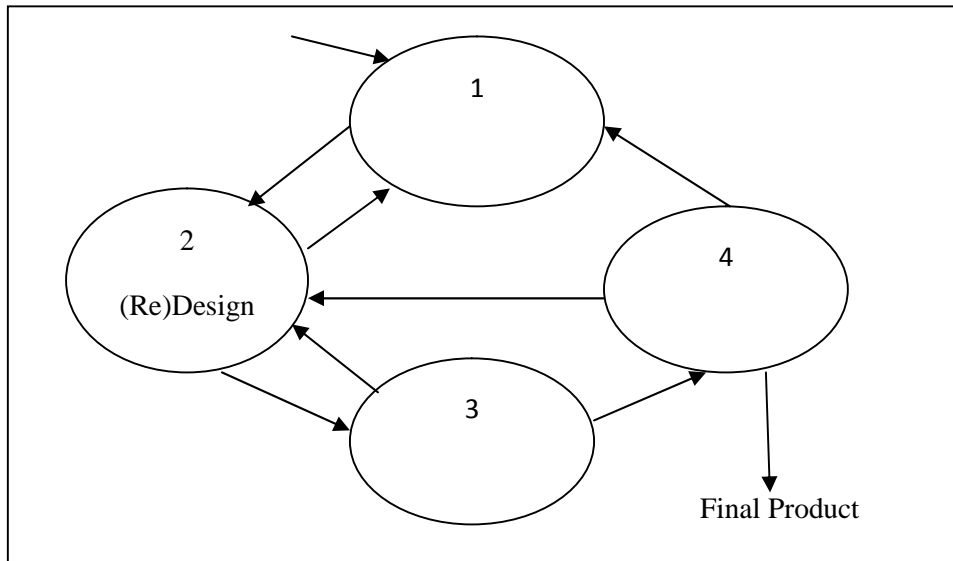


Fig.1

- (a) Figure1 above shows the activities in Human Computer Interaction Design. The activities at various stages are marked 1, 2, 3 and 4; activity 2 has already been named. Name the rest of the other three activities (1, 2 & 3) and briefly describe each activity including activity 2. [7 Marks]
- (b) Interaction design is an *iterative process*, list at least five of the processes involved. [5 Marks]
- (c) Name and briefly explain the components of Human Computer Interaction. [3 Marks]
- (d) Briefly describe at least three components of Norman's Design Principles. [6 Marks]
- (e) Briefly explain what is meant by the terms *perception*, *physiology* and *cognition* as they relate to Human Computer Interaction [6 Marks]

(f)

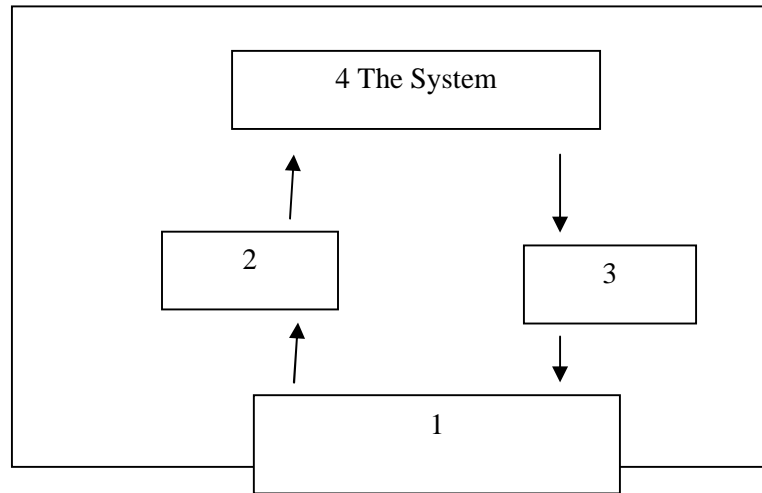


Fig.2

Figure 2 shows human computer interactions, the blocks numbered 1- 4 show the interaction pattern. Block 4 is already named, name the rest of the other blocks 1- 3 and indicate briefly their functions. [3 Marks]

QUESTION TWO

[20 MARKS]

(a) Usability goals are mainly concerned with meeting usability criteria. Name at least four of the usability criteria and briefly explain each. [6 Marks]

(b) At the center of Interaction Design are the usability goals. Draw a clearly labeled diagram showing this interaction and the user experience. [8 Marks]

(c) Identify three different ways in which '*functional ageing*' can affect interface development. [6 Marks]

QUESTION THREE

[20 MARKS]

(a) A Human Computer Interaction theory normally serves for at least one of the purposes: explanation or prediction. **Nielsen's Ten Usability Principles** is a good example. Name at least four of the Ten Nielsen's usability principles. [4 Marks]

(b) Describe what a conceptual model is. [2 Marks]

(c) Name two different kinds of conceptual models used in Human Computer Interaction. [2 Marks]

(d) Cognition has been described in SIX KINDS OF PROCESSES; describe any three of these processes. [6 Marks]

(e) Briefly describe the three Conceptual Frameworks for Cognition [6 Marks]

QUESTION FOUR

[20 MARKS]

(a) Name the three key characteristics of the interaction design process [3 Marks]

(b) Explain *Affective Learning* as applied to Human Computer Interaction. [2 Marks]

(c) What is the importance of evaluation in an interactive design system? [3 Marks]

(d) List the main steps in undertaking a simple but effective evaluation process [7 Marks]

(e) Is Heuristic evaluation' referred the same as 'discount evaluation'? Explain. [2 Marks]

(f) State the three stages of heuristic evaluation [3 Marks]

QUESTION FIVE

[20 MARKS]

(a) "Environmental factors can impair users' ability to recall information that is necessary to operate complex, computer systems". Do you agree with this statement? Explain [4 Marks]

(b) Name and clearly explain the two types of evaluations of user interface. [6 Marks]

(c) State the Norman's seven principles for transforming difficult tasks into simple ones [7 Marks]

(d) "Human Computer Interaction is considered a multi-disciplinary subject". Do you agree with this statement? Support your answer with examples. [3 Marks]