



PAN AFRICA CHRISTIAN UNIVERSITY

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

END OF SEMESTER EXAMINATION

DEPARTMENT: COMPUTING & INFORMATION TECHNOLOGY

COURSE CODE: BIT 209

COURSE TITLE: HUMAN COMPUTER INTERACTIONS

CAMPUS: ROYSAMBU

EXAM DATE: TUESDAY, 1ST AUGUST 2023

TIME: 2:00PM-5:00PM

INSTRUCTIONS

- This exam script has **TWO (2)** sections.
- Read all questions carefully before attempting.
- Answer All questions in Section **A** and any other THREE questions in Section **B**.
- Write only your **student number** on the answer booklet provided.
- None programmable calculators permitted
- Calculators on phones, tablets and computers are NOT permitted in Theory Papers

Section A (Compulsory)

Question One

- a) "Evaluation is an important activity in HCI". Explain this statement. **[2 Marks]**
- b) Explain two reasons why requirements gathering before the actual design of a HCI is a very necessary exercise. **[4 Marks]**
- c) Using an example, describe the stages in Donald Norman's model of Interaction.

**[4
Marks]**

Section B (Answer any 3 Questions)

QUESTION TWO

You are involved in the development of a package for maintaining a database that is used for gathering and inputting information and product availability. The intended users are aged between 25 and 55 with both sexes well represented, also the average length of employment is 3 years.

- a) Explain factors to consider when recommending on the input and output device combinations best for use in the package **[3 Marks]**
- b) Explain the actual device combinations that you would recommend. **[3 Marks]**
- c) Explain the problems you expect to encounter in deciding your recommended choices for these group of users. **[4 Marks]**

QUESTION THREE

- a) Explain how cognitive psychology of human behaviour help in improving the design of systems in HCI. **[4 Marks]**
- b) Discuss the major goals of Human Computer Interaction. **[6 Marks]**

QUESTION FOUR

The workstations on a particular company network are set up to allow each user to change software, menus, icons and color schemes to suit his or her own preferences. These variations make support for users difficult to manage. The network manager wants to change to a standard user interface, so that all the users will be given the same set of menus, icons and color schemes.

a) Describe two benefits for the users of this standardized approach, other than improved support. **[2 Marks]**

b) Describe two of the disadvantages for the users of this standardized approach. **[4 Marks]**

c) Explain the resource implications for planning this standardized interface. **[4 Marks]**

QUESTION FIVE

a) Technological development is a major challenge of HCI design. Explain how it qualifies as challenge. **[2 Marks]**

b) Enumerate the Shneiderman's Golden Rules of design. **[4 Marks]**

c) Describe the steps in the Usability Engineering Lifecycle. **[4 Marks]**

Question SIX

a) Differentiate the terms "affordance" and "visibility" as used in usability principles. **[2 Marks]**

b) Explain any TWO styles of interaction between human and computer systems, stating advantages and disadvantages of each. **[4 Marks]**

c) Using an example, discuss the concept of Hierarchical Task Analysis (HTA). **[4 Marks]**

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