

# MAASAI MARA UNIVERSITY UNIVERSITY EXAMINATIONS 2019/2020 ACADEMIC YEAR

## SCHOOL OF SCIENCE AND INFORMATION SCIENCES

## **DEPT OF COMPUTING AND INFORMATION SCIENCES**

## UNIVERSITY EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE (COMPUTER SCIENCE)

YEAR 4 SEMESTER 1

**COURSE CODE: COM 4103** 

### COURSE TITLE: HUMAN FACTORS IN COMPUTING AND INFORMATION SYSTEMS

DATE: 6th DECEMBER 2019 TIME:8:30am-10:30am

#### **INSTRUCTIONS**

• Answer Question **ONE** and any other **TWO**.

#### **QUESTION ONE (COMPULSORY)**

(a) Explain the WIMP interface.

(b) Explain the importance of ergonomics in the work environment.

(c) Discuss three expert review techniques.

(d) Explain how a software developer should consider cultural diversity in user interface design. (4 marks)

(e) Explain the following terms as used in HCI:

- i. Screen density
- ii. Display rate
- iii. Widget
- iv. Affordance
- v. Optical illusion

(f)Give the importance of progress indicators in user interface design.

(5 marks)

(2 marks)

(3 marks) (6 marks)

(10 marks)

#### **QUESTION TWO**

(a)Some scholars advocate for consistency and standardization in user interface design while others support creativity and uniqueness. Discuss your opinion in relation to HCI principles. (10 marks)

(b)Discuss the current trends in the development of interacting devices.

(10 marks)

#### **QUESTION THREE**

(a)There is a definite difference in the approach to software between inexperienced and experienced users. Software designers need to take account of these differences in shaping their designs. Discuss the ways in which HCI designers can cater for the two types of users in designing software systems. (10 marks)

(b)Discuss the user interface design principles as advocated by Shneiderman. (10 marks)

#### **QUESTION FOUR**

(a)Outline the merits of online surveys during usability testing. (**2 marks**) (b)Explain the disadvantages of using a touch screen as an interacting device. (**2 marks**)

(c)Discuss how a software developer should design the interface to take into consideration the following: (10 marks)

- i. Feedback
- ii. Familiarity
- iii. Standardization
- iv. Short term memory
- v. Recoverability