MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF EDUCATION, HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF SOCIAL SCIENCES

UNIVERSITY ORDINARY EXAMINATION

2023/2024 ACADEMIC YEAR

THIRD YEAR **SECOND** SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE IN CRIMINOLOGY AND SECURITY STUDIES

CEC303:

DURATION: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1. Answer Question one and any other two questions.

2. Mobile phones are not allowed in the examination room.

3. You are not allowed to write on this examination question paper.

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)

a) Explain how the following potential benefits are achieved by implementing CAD as part of the CAD/CAN system.

   i)   Productivity improvement in design (4marks)

   ii)   Greater accuracy in design calculations (4marks)

   iii)   Standardization of design, drafting and documentation procedures design analysis (4marks)

b) Distinguish between cursor control devices and keyboard terminals   (4marks)

c) State the function of the central processing unit in a CAD system   (4marks)

d) Briefly discuss the purpose of pads classification and coding   (5marks)

e) Explain how geometric modelling is achieved in a CAD system   (5marks)

SECTION TWO: ANSWER ANY TWO QUESTIONS

QUESTION TWO (20 MARKS)

a) Briefly explain what is meant by interactive computer graphics   (6marks)

b) What is the purpose of secondary storage in a CAD system? Give one example   (2marks)

c) Indicate the relationships between the modules of the graphics software and briefly describe their purposes   (12marks)

QUESTION THREE (20 MARKS)

a) State five functions in which design workstation must accomplish in a CAD system. (5marks)

b) Discuss the relative advantages and disadvantages of the two approaches used in solid modelling   (8marks)

c) What is the purpose of operator inpu5t devices at the graphics workstation? (5marks)

d) Briefly describe the functions of a digitizer   (2marks)

QUESTION FOUR (20 MARKS)

a) Differentiate between constructive solid geometry (CSC) and boundary representation (B-rep). (10marks)

b) Give the properties and drawbacks of Bezter curves as used in CAD drawing (10marks)