



# MERU UNIVERSITY COLLEGE OF SCIENCE & TECHNOLOGY

P.O. Box 972-60200 Meru - Kenya. Tel: 020-2092048, 020 2069349  
Fax: 020-8027449

## University Examinations 2012/2013

FIRST YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR  
OF SCIENCE IN INFORMATION TECHNOLOGY

### BIT 2111: COMPUTER AIDED DESIGN

DATE: AUGUST 2012

TIME: 2 HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

#### QUESTION ONE – 30 MARKS

- a. Outline the steps of assigning colours to a layer. (5 Marks)
- b. Explain the following terms as applied to AutoCAD.
  - i. Aligned dimension (2 Marks)
  - ii. Ambient light (2 Marks)
  - iii. User coordinate system (UCS) (2 Marks)
  - iv. Bezier curve (2 Marks)
  - v. World coordinate system (WCS)
- c. Explain three types of rendering provided by the AutoCAD render tool. (6 Marks)
- d. Explain the three types of associativity between geometric objects and dimensions provided by AutoCAD. (6 Marks)
- e.
  - i. Explain what Dimension Associativity is (2 Marks)
  - ii. Describe the ORTHO command in AutoCAD. (3 Marks)

#### QUESTION TWO – 30 MARKS

- a. Distinguish between the two types of the array command: rectangular and polar array commands. (4 Marks)
- b. The following steps are used to draw a rectangle
  - i. Start a new AutoCAD drawing
  - ii. Start the **line** command
  - iii. For the start point, enter 8, 10
  - iv. For the next point enter @ 0, 15
  - v. For the next point enter @ 9, 0

- vi. For the next point enter @ 0 – 15
- vii. For the next point enter @ 9, 0  
Sketch the rectangle on paper (6 Marks)
- a. Outline the steps to be followed in order to draw a polygon in AutoCAD using the command line. (4 Marks)
- b. Describe the two lighting colour systems in AutoCAD. (4 Marks)
- c. Distinguish between associated and unassociated hatching. (2 Marks)

**QUESTION THREE – 20 MARKS**

- a. Explain with the help of a diagram, the four distinct elements of dimensions. (12 Marks)
- b. Explain with the help of a diagram the five basic types of dimensioning. (10 Marks)
- c. Describe the following commands; with the help of diagrammatic examples:
  - i. Offset (2 Marks)
  - ii. Array (2 Marks)
  - iii. Stretch (2 Marks)
  - iv. Chamfer (2 Marks)

**QUESTION FOUR – 20 MARKS**

- a. Rendering often requires the most computer time in a 3D project. It generally involves three steps. Outline the three steps to be followed when rendering an object. (3 Marks)
- b. Explain the function of each of the following Zoom commands.
  - i. Zoom Dynamic: (2 Marks)
  - ii. Zoom Sclae: (2 Marks)
  - iii. Zoom Centre: (2 Marks)
  - iv. Zoom In: (2 Marks)
  - v. Zoom Extent: (2 Marks)
- c. Discuss the important of the Design Centre in a CAD software. (7 Marks)

**QUESTION FIVE – 20 MARKS**

- a. Explain what layers are in AutoCAD; illustrate this diagrammatically. (4 Marks)
- b. Distinguish between raster graphics and vector graphics. (6 Marks)
- c. Discuss five design features of the CorelDraw Package. (10 Marks)