



# **MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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## **University Examinations 2013/2014**

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

AND

FOURTH YEAR, SECOND SEMESTER END OF SEMESTER EXAMINATION FOR THE  
DEGREE IN BACHELOR OF BUSINESS IN INFORMATION TECHNOLOGY

### **ICS 2327, ICS 2311 – COMPUTER GRAPHICS**

**DATE: APRIL 2014**

**TIME: 2HOURS**

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**INSTRUCTIONS: SECTION A: COMPULSORY**

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#### **QUESTION ONE**

- (a) Discuss the role of Graphical User Interface in adoption of computer usage. (5 marks)
- (b) Discuss any two raster file formats. (4 marks)
- (c) Differentiate between LCD and PDP screens. (5 marks)
- (d) Briefly describe any FOUR application areas for computer graphics. (4marks)
- (e) Briefly discuss the following color schemes. (6 marks)
  - i. RGB
  - ii. CMY
- (f) Show the output of the following monochrome image file. (6 marks)

4,4,1010101010101010

## QUESTION TWO

- (a) With aid of a diagram describe the raster display architectures. (6 marks)
- (b) Outline ALL parameters that can be used to measure the performance of computer monitors. (8 marks)
- (c) Define the term clipping and explain how to achieve polygon clipping. (8 marks)

## CHAPTER THREE

- (a) Outline the advantages of CRT screen. (6 marks)
- (b) List down the three display technology used with computer graphical displays. (3 marks)
- (c) Discuss some basic methods used to acquire images/graphics into the computer systems. (5 marks)
- (d) In memory mapping differentiate between Peeking and Poking. (6 marks)

## QUESTION FOUR

- a) State and explain the following types of transformation using appropriate diagram.
- i. Translation
  - ii. Rotation
  - iii. Uniform Scaling (6 marks)
- b) Using Bresenham's line drawing algorithm scan convert a line from (0,0) to (19,8) endpoints. (8 marks)
- c) Write brief notes on the subject of global illumination. (6 marks)

## QUESTION FIVE

- a) Differentiate between Digital Differential analyzer line drawing algorithm and Bresenham's line drawing algorithm (7 marks)
- b) Discuss any two types of line clipping algorithms. (7 marks)
- c) Write advantages and disadvantages of plasma panel displays. (6 marks)