TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATIONS FOR DEGREE IN:
BACHELOR OF SCIENCE IN INFORMATION COMMUNICATION TECHNOLOGY
BACHELOR OF SCIENCE IN MATHEMATICS & COMPUTER SCIENCE
(BTIT 14S/BMCS 13S)

ICS 2311/EIT 4214: COMPUTER GRAPHICS

END OF SEMESTER EXAMINATION
SERIES: APRIL 2015
TIME: 2 HOURS

Instructions to Candidates:
You should have the following for this examination
- *Answer Booklet*

This paper consists of **FIVE** questions.
Attempt question **ONE (Compulsory)** and any other **TWO** questions
Maximum marks for each part of a question are as shown
This paper consists of **TWO** printed pages

Question One (Compulsory)

a) Briefly explain the meaning of the following terms in computer graphics:
- **(i)** Display technologies
- **(ii)** Interactive devices
- **(iii)** Graphic data structures
- **(iv)** Texture map rendering
- **(v)** Photo realistic rendering **(10 marks)**

b) Explain the term primitive data structure and any FIVE primitive structures in computer graphics **(12 marks)**

c) Identify and explain FOUR important capabilities required of a screen for Graphic display function **(8 marks)**

Question Two

Explain the application of the following computer graphic processes

a) Animation **(5 marks)**
b) Geometry **(5 marks)**
c) Imaging **(5 marks)**
d) Rendering **(5 marks)**

Question Three

a) Explain THREE methods of creating animation and outline the relevant software tools required for each method **(12 marks)**

b) Explain the following concepts related to web Graphics:
(i) Hot Spot **(3 marks)**
(ii) Slice **(3 marks)**
(iii) Image map **(2 marks)**

Question Four

a) Explain the following colour models and their application in computer graphics
(i) RGB
(ii) CMYK
(iii) HSL **(10 marks)**

b) (i) Describe the process of modeling a graphic scene **(4 marks)**
(ii) Describe the Open GL rendering process **(6 marks)**

Question Five

a) Identify any Graphic processing software for Engineering drawing and describe the primitives and techniques provided for drawing **(6 marks)**

b) (i) Explain the tools provided by fireworks graphic software or any other similar one **(4 marks)**

(ii) Identify any TWO application where Fireworks or the similar software can be applied, Explaining how **(4 marks)**

c) Explain the use of Open GL software in computer graphics **(6 marks)**