JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

(KISII LEARNING CENTRE)

UNIVERSITY EXAMINATIONS 2013/2014

THIRD YEAR FIRST SEMESTER FOR THE DEGREE OF BACHELOR OF IT

SCS 310: MULTIMEDIA & GRAPHICS

DATE: DECEMMBER 2013 TIME: 2 HOURS

INSTRUCTIONS

1. Answer Question ONE and any other TWO questions
2. Question ONE carries 30 marks and the rest 20 marks each
3. Do not write anything on this question paper

QUESTION ONE: 30 MKS

a. Explain four Characteristics of a Multimedia System (4 mks)
b. Monitoring quality of service in a distributed multimedia communication environment is a difficult task. Explain three problems encountered in providing a general quality of service monitoring in such an environment. (3 mks)
c. Explain four desirable features necessary for an effective multimedia system (3 mks)
d. Describe the following categories of multimedia systems
    i. Linear (1 mk)
    ii. Non- linear (1 mk)
e. Distinguish between GIF and PNG images (2 mks)
f. Explain how a CCD camera works (3 mks)
g. Filtering is the process of Modifying a signal or an image to enhance different frequencies. Explain three categories of filtering. (3 mks)
h. A multimedia database consists of data of various types including text, images, graphics video e.t.c. Explain four characteristics of data found in a multimedia database. (4 mks)
i. Signal processing is very useful tool in computer graphics and image processing. Explain two applications of signal processing. (2 mks)
j. Multicasting in multimedia communication can be sender oriented or receiver oriented.
    i. Explain the working principles for the two types of multicast (2 mks)
    ii. r each type of multicast give an example of its application (2 mks)

QUESTION TWO (20 mks)

a. Describe the three types of video signal used in multimedia systems (12mks)
b. The coordinate system is a method of locating points in the drawing area by specifying distance from a fixed reference point. Describe the two coordinate systems commonly used in drawing computer graphics (8 mks)

QUESTION THREE (20 mks)

a. Describe how audio can be implemented at the user interface application control using any available tool. (10 mks)

b. Describe the main factors that control the appearance of text in multimedia systems (10 mks)

QUESTION FOUR (20mks)

a. Describe reliable multimedia multicast and explain how this can be achieved(7 mks)

b. Describe the group communication architecture (7 mks)

c. explain the elements used by agents in group communication for collaboration (6 mks)

QUESTION FIVE(20mks)

a. Audio can be implemented at the user interface application control. Using any available tool write a simple audio program and design the interface for the audio control (12 mks)

b. Discuss the major challenges facing the development of multimedia systems (8 mks)