**W1-2-60-1-6**

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

# **UNIVERSITY EXAMINATIONS 2014/2015**

SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF SCIENCE IN INFORMATION TECHNOLOGY AND BACHELOR OF PURCHASING AND SUPPLIES MANAGEMENT FOURTH YEAR FIRST SEMESTER

**BBT 2116 : NETWORK SYSTEM DESIGN AND IMPLEMENTATION**

**DATE: AUGUST 2015 TIME: 2 HOURS**

**INSTRUCTIONS:**

**ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS**

**=========================================================**

**QUESTION ONE [30 MARKS]**

1. Differentiate between the following
2. Brouters and routers [2 marks]
3. Hub and repeater [2 marks]
4. LAN and WAN [2 marks]
5. Windowing and sequencing [2 marks]
6. Explain the following terms as used in Networks citing relevant examples
7. Simplex [2 marks]
8. Half doplex [2 marks]
9. Full doplex [1 mark]
10. Synchronous [1 mark]
11. Define an N.I.C and explain three considerations ne has to make before purchasing N I C [5 marks]
12. Fiber Optics have become common in implementation of computer networks. Discuss five advantages associated with this media. [5 marks]
13. Explain four ways how auditing helps in enhancing network security [4 marks]
14. Discuss any three networking modeling software [3 marks]

**QUESTION TWO [20 MARKS]**

1. Differentiate between end system (ES) and an intermediate system [4 marks]
2. Trouble shooting is inevitable part of network design and implement, describe how it is done and explain two hardware tools and two software tools used. [6 marks]
3. Explain the functionality of the layers of the OSI model [7 marks]
4. Discuss any thee success factors of network development life cycle [NDLC) [3marks]

**QUESTION THREE [20 MARKS]**

1. List and explain three possible security threats in a network [6 marks]
2. Discuss what a router is and explain six characteristics of a router. [6 marks]
3. With the help of an explanation and diagrams, show the operation of Ethernet bus. [8 marks]

**QUESTION FOUR**

1. Using appropriate diagrams explain the following
2. Coaxial [3 marks]
3. Fibre optic [3 marks]

Rafiki communications is a small company in Thika currently they have 75 stand-alone computers. They have approached you to set up a local Area network for them, with a dedicated link to the internet. Majority of the computers either have window 98 or windows Xp. They require a file/print server so that all the users can store their data on it and access the printer on the network. They occupy the 2nd, 3rd and 4th floors, with each floor having 25 computers.

1. State the functions of at least 3 networking devices you will require. [6 marks]
2. Discuss four factors you will consider when setting up the network. [8 marks]

**QUESTION FIVE**

1. `Explain four advantages and four disadvantages of wireless network [8 marks]
2. Discuss the operations of FDDI network [8 marks]
3. Explain three types of networks [6 marks]