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**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

 **UNIVERSITY EXAMINATIONS 2015/2016**

**YEAR II SEMESTER I EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY/ BACHELOR OF PROCUREMENT AND CONTRACT MANAGEMENT AND BACHELOR OF BUSINESS INFORMATION TECHNOLOGY**

**BIT 2116: NETWORK DESIGN AND IMPLEMENTATION**

**DATE: AUGUST 2016 TIME: 2 HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS**

**QUESTION ONE (COMPULSORY)**

1. Differentiate between the following;
2. Internet and intranet [1 mark]
3. Client side computers and server side computers. [1 mark]
4. Computer network and peer – to – peer network. [1 mark]
5. Topology and protocols [1 marks]
6. Assume that you have been working in a certain organization that has the following; it has 85 stand alone computers. They are connected to the internet. The computers have windows 7 and 8. They have a server and a printer. They occupy 8th 9th and 10th floors. In view of these;
7. List and explain any TWO networking devices that will be needed. [4 marks]
8. Explain the network design process [4 marks]
9. Discuss FDDI and its operations. [3 marks]
10. Troubleshooting is an important aspect when dealing with computer network. Describe how it is done. [3 marks]
11. Explain the following terms as used in Networking (use diagrams)
12. Simplex [2 marks]
13. Half duplex [2 marks]
14. Full duplex [2 marks]
15. Discuss encryption and its importance in network security. [4 marks]

**QUESTION TWO (20 MARKS)**

1. Explain network security and how auditing helps in enhancing it. [3 mark]s
2. Explain any THREE network topologies. [6 marks]
3. Explain any THREE protocols used in computer network. [3 marks]
4. Discuss benefits of Network traffic monitoring. [4 marks]
5. Using appropriate diagrams, differentiate the following;
6. Fibre optic cables and
7. Coaxial cables. [4 marks]

**QUESTION THREE (20 MARKS)**

1. Using a diagram, explain the OSI model. [8 marks]
2. Discuss any THREE success factors of Network development life cycle (NDLC) [6 marks]
3. Explain the importance of wireless network. [6 marks]

**QUESTION FOUR (20 MARKS)**

1. Discuss fraud and theft in regard to Network design security. [6 marks]
2. Discuss a router, its importance and any FOUR characteristics of a router. [6 marks]
3. Discuss THREE types of Networks. [6 marks]
4. Differentiate between an End system and an Intermediate system. [2 marks]