

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

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

# **UNIVERSITY EXAMINATIONS 2016/2017**

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DIPLOMA IN INFORMATION TECHNOLOGY

**DIT 0204 : NETWORK ESSENTIALS**

**DATE: APRIL 2017 TIME: 1.30 HOURS**

**INSTRUCTIONS:**

**ANSWER QUESTION ONE [COMPULSORY] AND ANY OTHER TWO QUESTIONS**

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

**QUESTION ONE [20 MARKS]**

1. (i)Define a computer Network [2 marks]

(ii)Explain four reasons why a school would want to implement (LAN) - local area network. [4 marks]

1. Define the following terms:-
2. Peer [1 mark]
3. Resources [1 mark]
4. Topology [1 mark
5. Services [1 mark]
6. Attenuation [1 mark]
7. Client [1 mark]
8. Describe any Four network devices [8 marks]

**QUESTION TWO [20 MARKS]**

1. List and briefly the free components of a data communication system. [10 marks]
2. Distinguished between MAC and IP address [4 marks]
3. Explain any Three factors that influence the choice of a network topology [6 marks]

**QUESTION THREE [20 MARKS]**

1. Discuss the following Media Access Control techniques
2. CSMA/CD [3 marks]
3. Token Ring [3 marks]
4. List four functions that are performed by a Network Interface card [4 marks]
5. State Three advantages of wireless network [3 marks]
6. List the layers of the OSI reference model [7 marks]

**QUESTION FOUR [20 MARKS]**

1. Ethernet is now the dominant LAN technology in the world. It is not one technology but a family of LAN technologies. State reasons why the Ethernet has become successful. [4 marks]
2. List down the four different types of transmission media and for each give one advantage it has over the others. [8 marks]
3. Discuss any four solutions to guarantee network security [8 marks]

**QUESTION FIVE [20 MARKS]**

1. Differentiate between logical and physical topology [4 marks]
2. By use of diagrams describe the 4 primary topology types. [16 marks]