KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2017/2018 ACADEMIC YEAR
DIPLOMA IN BUSINESS INFORMATION TECHNOLOGY

DBT 029 - COMPUTER NETWORKS

Date: 27TH JULY, 2017.

Time: 3.00pm – 5.00pm

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

a)   Distinguish between the following terminologies.

    i)   Internet and the World Wide Web.   (2 Marks)

    ii)   Circuit switching and packet switching.   (2 Marks)

b)   Describe the major components of a communications system.   (5 Marks)

c)   Describe the three modes of data flow in terms of data communication using relevant examples.
                                                                                                                            (6 Marks)

d)   Explain the functionality of the layers defined by the OSI reference model.   (7 Marks)

e)   Explain four network topologies with the help of diagrams.   (8 Marks)

QUESTION TWO (20 MARKS)

a)   Differentiate between Multicast and Broadcast messages.   (2 Marks)

b)   Explain the concept of circuit switched networks.   (8 Marks)

c)   Explain what is multiplexing and mention ways in which it can be achieved in relation to data

communication systems.   (10 Marks)

QUESTION THREE (20 MARKS)

a)   Distinguish between piconet and scatternet.   (2 Marks)

b)   Explain the functionality of the two layers of the Data Link layer.   (8 Marks)

c)   Explain the following network categories: LAN, MAN and WAN.   (10 Marks)

QUESTION FOUR (20 MARKS)

a)   Distinguish between point-to-point and multipoint types of connection.   (4 Marks)

b)   Discuss performance, reliability and security issues in the context of a network.   (6 Marks)

c)   With the aid of a diagram, explain the Bluetooth layers.   (10 Marks)

QUESTION FIVE (20 MARKS)

a)   Distinguish between de-facto and de-jure categories of standards.   (4 Marks)

b)   Discuss the 3 key elements of protocols.   (6 Marks)

c)   Explain the various functionality of the TCP/IP model and also give a comparison with the OSI

reference model with the help of a diagram.   (10Marks)