



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

Faculty of Engineering & Technology

DEPARTMENT COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY – DICT 2K 10J

EIT 2301: NETWORKING I

END OF SEMESTER EXAMINATIONS

SERIES: DECEMBER 2011

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consist of **FIVE** questions in **TWO** sections **A & B**

Answer question **ONE (COMPULSORY)** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **THREE** printed pages

SECTION A (COMPULSORY)

Question 1 (20 marks)

- a) Explain the **two** (2) types of networks that can be derived from classification of networks by relationship among the nodes. (6 marks)
- b) Briefly explain the following terms as used in networking:
- i Multiplexing
 - ii Modulation
 - iii Synchronous transmission
 - iv Asynchronous bit transmission
- (8 marks)
- c) State **six** (6) roles of protocols (6 marks)

SECTION B (ANSWER ANY TWO QUESTIONS)

Question 2 (20 marks)

- a) Differentiate between circuit switched and packet switched networks. (8marks)
- b) Explain briefly three (3) reasons for a computer not being able to access network resources from a server. (6 marks)
- c) Define the following terms as used in networking:
- i Interoperability
 - ii Throughput
 - iii Data packets
- (6marks)

Question 3 (20 marks)

- a) Identify **four** physical threats to computer networks that organizations need to safeguard. (4 Marks)
- b) Outline the following two security levels that can be applied in a network.
- i. User level
 - ii. Share level
- (4 Marks)
- c) Distinguish between a bridge and a router as used in a local area network. (6 marks)
- d) Explain the operation of the following multiplexing schemes:
- i. Frequency division multiplexing
 - ii. Time division multiplexing
- (6 Marks)

Question 4 (20 marks)

- a) During network configuration, a student used the commands ping and trace route. Distinguish between the two commands. (4 marks)
- b) Differentiate between CSMA/CD and CSMA/CA contention medium access control methods. (8 marks)
- c) Using diagrams explain the operations of the FDDI networking technology. (8 marks)

Question 5 (20 marks)

- a) With the aid of diagrams show how a Ethernet network can be implemented as physical-star, Logical-bus. (8 marks)
- b) Using a diagram explain the fields in the token ring frame. (8 marks)
- c) Using diagram show how the TCP/IP fits in ISO-OSI reference model. (4 marks)