



TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

**DIPLOMA IN INFORMATION COMMUNICATION TECHNOLOGY
(DICT 14M Y1 S2 – S-EV)**

EIT 2106: NETWORK ESSENTIALS

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2014

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Attempt 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

Question One (Compulsory)

- a) What is a computer network? **(2 marks)**
- b) Name **THREE** advantages of using a computer network? **(3 marks)**
- c) Discuss types of Networks. **(6 marks)**
- d) List characteristics that distinguish LANs from other kinds of networks. **(3 marks)**
- e) Give examples of a LAN and a WAN configurations **(6 marks)**

Question Two

- a) Define cloud computing. **(2 marks)**
- b) Explain cloud computing characteristics. **(8 marks)**
- c) Explain the advantages of cloud computing technology. **(10 marks)**

Question Three

- a) Discuss disadvantages of Local Area Networks **(10 marks)**
- b) Discuss Network Models **(6 marks)**
- c) Describe the **TWO** types of Internet Protocol (IP) address in active use. **(4 marks)**

Question Four

- a) Explain types of Network Topologies. **(8 marks)**
- b) Describe advantages of the following networks **(8 marks)**
 - (i) Peer-to-peer
 - (ii) Server-based
- c) List factors that influences the choice of whether to implement a peer-to-peer or server-base network. **(4 marks)**

Question Five

- a) Define the following: **(8 marks)**
 - (i) Client
 - (ii) Peers
 - (iii) Servers
 - (iv) Server-based
- b) Change the following IP addresses from binary notation to dotted-decimal notation. **(8 marks)**
 - (i) 10000001 00001011 11101111
 - (ii) 11111001 11111011 00001111

c) Differentiate between the following.

(4 marks)

- (i)** Public addresses
- (ii)** Private addresses