



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN TECHNOLOGY ELECTRICAL AND ELECTRONICS

ENGINEERING

ETI 2203: COMPUTER NETWORKING I

SERIES:AUGUST2019

TIME:2HOURS

DATE:4Aug2019

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

- (a) Define a Computer network. **(2mks)**
- (b) Describe the following types of Networks;
- (i) LAN
 - (ii) WAN
 - (iii) MAN **(3mks)**
- (c) Briefly describe the set-up and configuration of a star-based topology LAN network. **(5mks)**
- (d) Describe the role and configuration of a network interface card. **(5mks)**
- (e) Explain the following network standards terminologies;
- (i) Proprietary
 - (ii) Open
 - (iii) De-facto **(3mks)**
- (f) Explain the following network performance concepts;
- (i) Speeds
 - (ii) Bandwidth
 - (iii) Throughput
 - (iv) Latency **(4mks)**
- (g) Describe the characteristics of guided and unguided transmission media. **(8mks)**

Question TWO

- (a) Briefly explain the importance of network standards. **(2mks)**
- (b) Describe the functions of the following Internet Standards Organisations;
- (i) IETF
 - (ii) IAB
 - (iii) ISOC
- (6mks)**
- (c) Explain the following network architecture;
- (i) 10BaseT
 - (ii) 10Base5
 - (iii) 10BaseFL
- (6mks)**
- (d) With the aid of a diagram describe the operation of a Bus topology network. **(6mks)**

Question THREE

- (a) (i) Define Mobile Computing.
- (ii) Describe three technologies that enable Mobile computing. **(8mks)**
- (b) Using illustrations and practical examples, describe the following transmission modes;
- (i) Simplex
 - (ii) Half-duplex
 - (iii) Full duplex
- (9mks)**
- (c) Explain a peer-to-peer network. **(3mks)**

Question FOUR

- (a) (i) Differentiate between Physical and Logical network topologies
- (ii) With an illustration, explain the operation of a Ring topology network. **(10mks)**
- (b) Briefly describe how the TCP/IP model operates. **(8mks)**
- (c) Differentiate between broadcast and broadcast storm. **(2mks)**

Question FIVE

- (a) Describe three types of Infrared connectivity modes. **(6mks)**
- (b) Describe the physical and electrical characteristics of Coaxial cable. **(4mks)**
- (c) Briefly explain the need for Mobile Computing in today's world. **(3mks)**
- (d) Explain the considerations for the choice of a transmission media. **(4mks)**
- (e) Differentiate between broadband and baseband system. **(3mks)**

