



TECHNICAL UNIVERSITY OF MOMBASA
INSTITUTE OF COMPUTING AND INFORMATICS

Select department

UNIVERSITY EXAMINATION FOR:

DICT/JAN2019/S-PT

EIT 2106: NETWORKING ESSENTIALS

END OF SEMESTER EXAMINATION

SERIES:AUGUST2019

TIME:2

DATE:12Aug2019

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) Differentiate between the following terms
 - i) Collision domain and broadcast domain (4 marks)
 - ii) Logical and physical topology (4 marks)
 - iii) A shared and a network printer (2 marks)
- b) Explain the functions of the following devices as used in networking. (10 marks)
 - i) Bridge ii) Gateway iii) Repeater iv) Router v) Access point

Question TWO

- a) Differentiate between the following terms as used in Computer networking
 - i) Backbone and segment (2 marks)
 - ii) A node and a packet (2 marks)
- b) Using a well labeled diagram, explain the roles of each OSI reference model layer in network administration. (16 marks)

Question THREE

Technical University of Mombasa requires a Network that will cater for their administrative and students needs. The users range from lecturers, administrative assistants and students. All types of users need to access the internet. The university management also requires the network to support WIFI access. The university members of staff need to access the University management information system, which should not be accessed by the students. The total number of expected users is 500 at any given time.

- i) By giving reasons to your answer, which is the most appropriate network topology for this network? (3 marks)
- ii) By citing **one** advantage and **one** disadvantage in each case, Illustrate using a diagram any **two** types of network topologies. (8 marks)
- iii) State and explain three transmission impairments that the network is likely to experience. (6 marks)
- iv) Name the transmission medium that will be used to connect the network? Give reasons for your answer. (3 marks)

Question FOUR

- a) A user on your LAN requests a web page that consists of some text and 3 images. The browser's cache is empty. For this page, what will the client's browser do? (4 marks)
- b) Using a well labeled diagram, explain the roles of each OSI reference model. (16 marks)

Question FIVE

- a) Compare and contrast between peer – to – peer and client – server models. (6 marks)
- b) State and explain **two** methods of communications. (4 marks)
- c) A certain student in IT class was crimping a cross over cable in a computer lab. Copy and Complete the table below for him. (10 marks)

Pin	Connector A	Connector B
Pin 1		
Pin 2		Orange
Pin 3		White green
Pin 4	Blue	
Pin 5		
Pin 6		
Pin 7	White Brown	
Pin 8	Brown	Brown