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:2HOURS

DATE: Pick DateAug2019

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

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

Do not write on the question paper.

Question ONE

a) Explain the functions of the following devices as used in networking. (12 marks)
   i) Router
   ii) Bridge
   iii) Gateway
   iv) Switch
   v) Repeater
   vi) Access point

b) Differentiate between the following terms
   i) Collision and broadcast domains (4 marks)
   ii) Logical and physical topology (4 marks)
   iii) MAC and IP addresses. (4 marks)
   iv) IPv4 and IPv6 (2 marks)

c) Highlight any **four** likely causes of a network connection failure. (4 marks)

Question TWO

a) By citing **one** advantage and **one** disadvantage in each case differentiate between peer – to – peer and client – server model. (6 marks)

Question THREE

a) Using a well labeled diagram, explain the roles of each OSI reference model layer in network administration. (16 marks)

b) It is important to choose the right topology for how the network will be used. Explain **two** factors that will influence the choice of the topology. (4 marks)

Question FOUR

a) Highlight **four** roles of a network interface card. (4 marks)

b) Differentiate between UDP and TCP protocols. (6 marks)

Question FIVE

a) By citing **two** uses in each case, differentiate between cross over and straight through cables. (6 marks)

b) An internal client has an IP address of 10.0.1.150.When this address tries to communicate with an outside network; your NAT device translates it to the first available address in the range of 202.0.1.150 to 202.0.1.100. Explain. (4 marks)

c) What is meant by the term "redundancy" and what is a drawback of building redundancy into a network? (4 marks)