TECHNICAL UNIVERSITY OF MOMBASA

INSTITUTE OF COMPUTING AND INFORMATICS

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION

TECHNOLOGY

UNIVERSITY EXAMINATION FOR:

DICT/SEP2017/J-FT, DICT/SEP2017/S-FT

EIT 2207: NETWORK DESIGN & IMPLEMENTATION

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. Attemptany THREE questions.
Do not write on the question paper.

Question ONE

a) A host has IP address 10.0.0.0/25. Use it to calculate the following: (6 marks)
    i) Number of subnets
    ii) Number of hosts
    iii) Broad cast address for the second range

b) Differentiate between the following terms
    i) Collision domain and broadcast domain   (4 marks)
    ii) Client/server and peer to peer models.   (6 marks)
    iii) Bandwidth and Latency   (4 marks)

Question TWO
A company is in the process of designing a computer network, knowing you as an expert in this area, they approach you to assist in designing. Describe how you will take them through a Network Design and Implementation Cycle.   (20 marks)

Question THREE

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 FOUR

    a) Troubleshooting is a process of identifying common network problems. Highlight any **five** causes of a network connection failure. (5 marks)

    b) Highlight **five** roles of a network interface card. (5 marks)

    c) Tom and Jane are using Windows Operating system in a network. Jane needs to share a resource by the name DICT2019 with Tom.

        i) How would Jane go about sharing the resource? (5 marks)

        ii) How would Tom go about accessing the resource for him computer? (5 marks)

Question FIVE

a) State and explain the functions of any six networking devices that you know. (12 marks)

b) What is meant by the term "redundancy" and what is a drawback of building redundancy into network switches without configuring stp protocol? (8 marks)