MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

UNIVERSITY ORDINARY EXAMINATION

2021/2022 ACADEMIC YEAR

THIRD YEAR **FIRST** SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE COMPUTER TECHNOLOGY AND EDUCATION SCIENCE

SIT308- NETWORK SYSTEMS ADMINISTRATION

DURATION: 2 HOURS

Instructions to candidates:

1. Answer question One and Any Other Two questions.

2. Mobile phones are not allowed in the examination room.

3. You are not allowed to write on this examination question paper.

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)
a) Define the following terms:
   i.   DHCP
   ii. DNS
   iii. FQDNs
   iv. Server
   v.   WINS   (5marks)
b) Differentiate between physical and logical structure of active directory.   (4marks)
c) Describe the three different approaches used in DHCP to allocate IP addresses.   (6marks)
d) NIC teaming allows administrators to combine the bandwidth of multiple network interface adapters, providing increased performance and fault tolerance. Explain the two modes of NIC teaming.   (6marks)
e) Describe the three major benefits of implementing DNS service in an enterprise network.   (6marks)
f) As a network systems administrator you have been tasked to deploy window server in a small enterprise of about 100 employees. What pre-requisite would you advise the organisation to observe before deployment of the windows server.   (3marks)

SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION
QUESTION TWO (20 MARKS)
a) Windows active directory become part of the windows family of server OS's starting with windows 2000 server. Before windows 2000, windows NT server had a directory server that was little more than a user manager. Describe six feature that make active directory a flexible directory service.   (12marks)
b) You have been tasked to assign IP addresses to 1000 machines, which approach is the best and justify your answer.   (8marks)

QUESTION THREE (20 MARKS)

a) With the aids of diagrams explain the two designs used to implement DHCP infrastructure in order to support many thousands of clients in an enterprise network.   (12marks)
b) Explain the term DNS zone and differentiate between primary and secondary zones. (5marks)
c) List three advantages of using AD in a network.   (3marks)

QUESTION FOUR (20 MARKS)

a) Identify and explain the four organizing components of active directory logical structure.
                                                                                    (12marks)
b)   List and explain six roles of a network system administrator.   (6marks)
c) As a network security expert you have been identified irregular packets in the network. What are the likely threats in the network.   (2marks)