MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

UNIVERSITY ORDINARY EXAMINATION

2020/2021 ACADEMIC YEAR

SECOND YEAR **SECOND** SEMESTER EXAMINATION FOR, DIPLOMA IN INFROMATION TECHNLOLOGY

SIT 058–NETWORK DESIGN AND ADMNISTRATION

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   (3marks)
   i.   Multiplexing
   ii. Analogue data
   iii. De facto
b) Explain any three data communication components   (6marks)
c) Explain the 3types of data flows in a network   (6marks)
d) State 3 advantages of frequency division multiplexing   (6marks)
e) Explain the two types of data transmission media   (4marks)
f) By use of calculation, calculate the number of links and the number of ports that a mesh topology that has got 20 nodes(workstations) is expected to have (5marks)

SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

a) Explain the four fundamental goals of designing a network   (8marks)
b) With the aid of a diagram distinguish between hierarchical and flat model network designs   (12mraks)

QUESTION THREE (20 MARKS)

a) Discuss the four factors that determines the PERFORMANCE of a network (8marks)
b) Discuss 6 functions of a physical layer of an OSI model   (12marks)

QUESTION FOUR (20 MARKS)
a) Describe how a FDM systems works   (10marks)
b) Discuss packet switching and message switching   (10marks)