



MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

UNIVERSITY ORDINARY EXAMINATION

2021/2022 ACADEMIC YEAR

**SECOND YEAR FIRST SEMESTER EXAMINATION FOR DIPLOMA IN
INFORMATION TECHNOLOGY**

SIT058– NETWORK DESIGN & 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.

QUESTION ONE (30 MARKS)

- a) Define the following terms. (6 mks)
- i. Computer network
 - ii. Data Communication
 - iii. Protocol
 - iv. Transmission Media
 - v. Multiplexing
 - vi. Packet
- b) Discuss the 3 types of data flows in a transmission media. Use a diagram to explain. (6 mks)
- c) Discuss 3 cause of transmission impairment in a transmission medium. (6 mks)
- d) Distinguish between packet switching and circuit switching. (6 mks)
- e) Explain 3 ways of representing data in network. (6 mks)

QUESTION TWO (20 MARKS)

- a) Write 5 differences between a TCP/IP an OSI model. (10 mks)
- b) For a Network to be in a position to be declared it can perform. Or its performance is the best.
Discuss the 4 factors that should be considered when determining its performance. (8 mks)
- c) Define a protocol. (2 mks)

QUESTION THREE (20 MARKS)

- a) Discuss with the aid of a diagrams, discuss three types of network topologies. (8 mks)
- b) With the aid of diagrams discuss three types of Guided Media. (12 mks)

QUESTION FOUR (20 MARKS)

- a) Distinguish between FDM,TDM and WDM (4 points). (5 mks)
- b) Discuss 4 functions of a physical layer of an OSI Model (8 mks)