



# **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)