# 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

SIT056– FUNDAMENTALS OF COMPUTER NETWORKS

DURATION: 2 HOURS

### INSTRUCTIONS TO CANDIDATES:

1. Answer question one and any other two in section B
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.    Data communication

    ii.   Protocol

    iii.  Multiplexing

    iv.   Encoding

    v.    Data link Control

    vi.   Packet

b)  Discuss with the aid of a diagram the data communication system.               (6 mks)

c)  Discuss the 3 types of directions of data flows of data transmissions.         (6 mks)

d)  Distinguish between parallel and  serial types of data transmissions.          (6 mks)

e)  Discuss 3 advantages of packet switching technique.                            (6 mks)


**QUESTION TWO (20 MARKS)**

a)  |Discuss any 3 types of Data line encoding schemes                             (12 mks)

b)  Explain 4 functions of Data communication protocols                           (8 mks)

**QUESTION THREE (20 MARKS)**

a)  State and explain 5 devices used in internet working.                          ( 10 mks)

b)  Discuss briefly the 3 functions of Data link control                           ( 10 mks)


**QUESTION FOUR (20 MARKS)**

  a)  Explain 5 features of ATM Technologies.                                       (10mks)

  b)  Explain briefly the 3 LAN technologies                                        (10 mks)