



*(Knowledge for Development)*

**KIBABII UNIVERSITY  
(KIBU)**

**UNIVERSITY EXAMINATIONS  
2019/2020 ACADEMIC YEAR**

**SPECIAL/SUPPLEMENTARY EXAMINATIONS  
YEAR TWO SEMESTER ONE EXAMINATIONS**

**FOR DIPLOMA IN  
(INFORMATION TECHNOLOGY)**

**COURSE CODE : DIT 060  
COURSE TITLE : DATA COMMUNICATION AND  
NETWORKS I**

**DATE: 11/02/2020 TIME: 8.00 AM. – 10.00 AM.**

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**INSTRUCTIONS TO CANDIDATES  
ANSWER QUESTIONS ONE AND ANY OTHER TWO.**

### QUESTION ONE [COMPULSORY](24 MARKS)

- a) List the various types of networks [2Marks]
- b) State factors to consider when selecting a transmission medium [4Marks]
- c) List and explain four characteristics of a LAN [4Marks]
- d) Identify the key problems with wired media? [4Marks]
- e) Describe the following modes of data communication and give an example of where they are applied. [4Marks]
  - i. Half duplex Transmission
  - ii. Full duplex Transmission
- f) Identify the key problems with wired media? [4Marks]
- g) What is the difference parallel transmission and Serial transmission? [2Marks]
- h) List the characteristics of broadband coaxial cable? [4Marks]

### QUESTION TWO [18 MARKS]

- a) Discuss the following network devise: [8Marks]
  - i. Gateway
  - ii. Switch
  - iii. Bridge
  - iv. Router
- a) Explain the difference between broadcasting and multicasting? [4Marks]
- b) Give Comparison between MAN, WAN and GAN [6Marks]

### QUESTION THREE [18 MARKS]

- a) What do you understand by the following terms used networking: [4Marks]
  - i. Packet switching
  - ii. Circuit switching
- b) Define a packet in relation to data communication? [3Marks]
- c) Describe any technology used to implement [4Marks]
- d) How is the fiber optic medium better than coaxial cable? [3Marks]
- e) Distinguish between a repeater and a hub as used in computer networks. [4Marks]

### QUESTION FOUR [18 MARKS]

- (a) Discuss the impact internet on various aspects of our daily lives and how it have affected our social being [6 Marks].
- (b) Computer networks can be classified according to the topology, Administration and geographical coverage. Explain. [6 Marks]
- (c) What are the advantages of star topology over ring topology [4 Marks]
- (d) What are the four general functions of a repeater in computer network [2 Marks]

### QUESTION FIVE [18 MARKS]

- a) State and explain all the types of networks based on their physical scope? **[8Marks]**
- b) State and Explain four basic elements of data communication? **[8Marks]**
- a) Topologies are either physical or logical, State at least four most common network topologies? **[2Marks]**