

LS



(Knowledge for Development)

**KIBABII UNIVERSITY  
(KIBU)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
END OF SEMESTER EXAMINATION**

**2021/2022 ACADEMIC YEAR**

**SECOND YEAR FIRST SEMESTER EXAMINATION**

**FOR THE DIPLOMA IN**

**(INFORMATION TECHNOLOGY)**

**COURSE CODE: DIT 069**

**COURSE TITLE: DATA COMMUNICATION AND NETWORKS II**

**DATE: 16/05/2022**

**TIME: 2.00 P.M. – 4.00 P.M.**

**2HRS**

**INSTRUCTIONS TO CANDIDATES:**

**ANSWER QUESTIONS ONE AND ANY OTHER TWO.**

Paper Consists of 3 Printed Pages. Please Turn Over ►

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

- a. Define the following terms as used in computer network and data communication [6 Marks]
- i. Multiplexing
  - ii. Modulation
  - iii. Protocol
  - iv. Standard
  - v. IP
  - vi. modem
- b. Describe the history of the internet [4 Marks]
- c. What are the concept of network protocol in data communication in computer network? [4 Marks]
- d. Using an example, explain the parts of a URL address [4 Marks]
- e. Briefly explain the similarities and differences between the OSI model and TCP/IP model [6 Marks]

### QUESTION TWO [18 MARKS]

- a. Compare and contrast between computer network and data communication [6 Marks]
- b. Discuss the evolution of computer networks from the ancient time up to date [8 Marks]
- c. There are two types of computer network standards, explain with the use of example [4 Marks]

### QUESTION THREE [18 MARKS]

- a. Discuss the impact of the network and data communication in the society today [10 Marks]
- b. Name and explain protocols find at any four layers of your choice of the OSI model [8 Marks]

### QUESTION FOUR [18 MARKS]

- a. Discuss latest trends in data communication and computer networks [6 Marks]
- b. Elaborate ethical issues that have been realized with the evolution of the internet today [4 Marks]

- c. Describe any two networking devices while indicating which layer they are found on the OSI model **[8Marks]**

**QUESTION FIVE [18 MARKS]**

- a. Explain the functions of the following devices and map them to the specific OSI layer
- i. Server **[2 Marks]**
  - ii. Client **[2 Marks]**
  - iii. Switch **[2 Marks]**
  - iv. Router **[2 Marks]**
- b. When message is being transmitted from one node to another node from the sender to the receiver, that message usually undergoes conversions from electric current to bits, packets and frames then back, Discuss. **[6 Marks]**
- c. Explain the difference between client server and peer to peer architectures. **[4 Marks]**