NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi – Abuja

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER SCIENCE

2022_1 EXAMINATION

Course Code: CIT303
Course Title: **Principles Of Communication Technology**
Credit: **3 units**
Time allowed: **3Hours**
Instruction: Answer Questions **ONE (1)** and any other **THREE (3)**

QUESTIONS

1a. List any four (4) different forms in which data is represented nowadays **(4marks)**

1b. Define the term 'Data Communication' **(3 marks)**

1c. Outline and discuss the components of data communication. **(10marks)**

1d. Explain four characteristics that determine the effectiveness of a data communications system **(8marks)**

2a. Briefly define the following terms;
    i. Cipher **(2marks)**
    ii. Key **(2marks)**

2b. Explain the causes of transmission impairment. **(9Marks)**

2c. State two (2) key elements of a protocol. **(2Marks)**

3a. Differentiate between the following
    i. A computer with a NOS and one without an NOS **(6Marks)**
    ii. Peer-to-Peer and Client/Server networks **(5Marks)**

3b. Enumerate any four (4) services provided by Network security **(4Marks)**

4a. Enumerate and discuss three (3) major criteria that a network must be able to meet **(3Marks)**

4b. With the aid of a well labeled diagram write a short note on the following possible connection types;
    i. Point-to-Point **(4Marks)**
    ii. Multipoint **(3Marks)**

4c. Briefly discuss the five (5) layers of the TCP/IP model **(5marks)**

5a.   Describe the OSI model, and state its layers. **(10Marks)**
5b.   State the role of the Session Layer of the OSI model **(5Marks)**

6a.   Give two **(2)** major disadvantage of the bus topology **(4marks)**
6b.   Differentiate between guided media and unguided media. **(5Marks)**
6c.   Discuss possible technical barriers in VOIP. **(6Marks)**