

**National Open University of Nigeria**

**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**

**Faculty of Science**

**NOVEMBER, 2018 EXAMINATIONS**

**COURSE CODE: CIT 303**

**COURSE TITLE: PRINCIPLES OF COMMUNICATION TECHNOLOGY**

**CREDIT: 3 Units**

**TIME ALLOWED: 2½ Hours**

**INSTRUCTION:** **Answer Question ONE (1) and any other FOUR (4) Questions**

**QUESTIONS**

1. Distinguish between Analog Signal processing and Digital Signal processing (4 marks)
2. Explain Data Communication and outline and explain their features. (3 marks)
3. [Describe an Encryption and Decryption?](https://interviewquestionsanswers.org/__What-is-Encryption) (3 marks)
4. Outline and explain three Network criteria (3 marks)
5. Outline four (4) basic networking devices. (2 marks)
6. Differentiate between Symmetric-Key Cryptography and symmetric-Key Cryptography

(4 marks)

1. List three broad groups of wireless transmission: radio waves, microwaves, and infrared waves (3 marks)

(22 Marks)

1. Differentiate between guided media and unguided media with examples (4 marks)
2. Discuss the five services provided by Network security. (5 marks)
3. Outline three (3) examples of Network node or hardware equipment (3 marks)
4. Describe with diagram the components of data communication (4 marks)
5. What is a protocol and list its key elements (4 marks)
6. List and explain different forms of information (4 marks)
7. Describe the following with diagrams :
8. Bus Topology
9. Tree Topology
10. Star Topology

(3 marks each)

1. Outline the three (3) types of keys in cryptograph (3 marks)
2. Write short notes on the following:

(i) Simplex

(ii) Half- Duplex

(iii) Full - Duplex

(2 marks each)

1. List and explain two (2) types of connection (3 marks)
2. What is OSI model (3 marks)
3. Outline five (5) types of topology (5 marks)
4. Explain Cryptography algorithms, Use the shift cipher with key = 12 to encrypt the message “HELLO.” (4 marks)
5. Write short notes on the following

(i) LAN

(ii) WAN

(ii) Wireless

(3 marks each)