



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**PLOT 91, CADASTRAL ZONE, NNAMDI AZIKWE EXPRESSWAY, JABI-ABUJA**  
**FACULTY OF SCIENCES**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**SEPTEMBER, 2020\_1 EXAMINATIONS**

**COURSE CODE: CIT 305**

**COURSE TITLE: Networking and Communication Technology**

**CREDIT: 3 UNITS**

**TIME ALLOWED: 2<sup>1</sup>/<sub>2</sub> HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE (1) AND ANY FOUR (4) OTHERS**

**Question One:**

- 1a. Outline and discuss any three of the five wireless technologies in use. (9marks)
- 1b. Write on the following:
  - i. Discuss briefly transmission impairment as relates to transmission medium... (2marks)
  - ii. Identify the four sources of transmission impairment. ( 2marks)
- 1c.
  - i. What are the three common digital modulation techniques? (3marks)
  - ii. Evaluate on the advantages and disadvantages of Amplitude Shift Key (ASK). (4marks)
- 1d.
  - i. Describe the term “Integrated Services Digital Network” (1mark)
  - ii. Compare ISDN over other digital communication technologies. (1mark)

**Total of 22mks**

**Question Two**

- 2a. Briefly describe the following as relates to computer networking:
  - i. LAN (0.5mark)
  - ii. WAN (1mark)
  - iii. Backbone network (1mark)
- 2b. Describe the concept: telecommunication circuit. **(1mark)**
- 2c.
  - i. Write short note on OSI model **(1mk)**
  - ii. The OSI reference model has seven layers: identify and describe the functions of any four of them. **(7.5mks)**

**Question Three**

- 3a. Identify the predefine enterprise networks that may be created upon installation. (1mark)
- 3b. Outline and discuss the four types of threat with respect to enterprise network. (3marks)

3c

- i. Identify the nine steps to effective network planning and design. (4.5marks)
- ii. Summarize the design requirement process in network planning and design. (3.5 marks)

#### **Question Four**

- 4a. Identify the properties of digital information and explain any two briefly. (4.5 marks)
- 4b. Write short notes on the following:
  - i. Noise (0.5mark)
  - ii. Signal-to-noise ratio (S/N) (1mark)
- 4c. Identify the types of noise and discuss any two of them. (6marks)

#### **Question Five**

- 5a. Write on Bit Error Rate (BER). (3marks)
- 5b. Outline the six factors that affect BER. (6marks)
- 5c. Interpret the BER of  $10^{-5}$  (3marks)

#### **Question Six**

- 6a. Evaluate packet switching as relates to computer networking. (4marks)
- 6b. Describe the concept "packets" based on the knowledge you have gotten from your course materials **(4marks)**
- 6c. Outline the weaknesses of packet switching. (4marks)