



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: 2¹/₂ 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)