



NATIONAL OPEN

UNIVERSITY OF

NIGERIA

University Village, Plot 91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi, Abuja

FACULTY OF SCIENCES

JULY 2017 EXAMINATION

Course Title: CIT305: Networking and Communication Technology

Credit Unit: 3

Instruction: Answer question one and three others

Time: 3hrs

Q1a. In explicit terms discuss the concept of a Computer Network.

3marks.

b. Using appropriate illustrations explain the common types of computer networks stated below:

i) LAN

2 marks

ii) PAN

2 marks

iii) HAN

2 marks

c. You have been recently engaged as a computer network consultant for an educational institution and there is urgent need to establish network connectivity for the institution. List the important aspects that should be kept in mind while planning and designing a network?

4marks

d. Briefly describe the following:-

i. Internetwork

2 marks

ii. Backbone Network

2 marks

iii. Intranet

2 marks

iv. Virtual Private Network

2 marks

v. Global area network

2 marks

vi. Overlay network

2 marks

Q2a. What do you understand by the term data link?

5 marks

b. State some protocols that are defined by the data link layer

5 marks

c. Mention seven layers of OSI model

5 marks

Q3a. In clear terms, explain how fiber optic medium is better than coaxial cable

5 marks

b. What is Digital Subscriber Line (DSL)?

5 marks

c. What are the advantages and disadvantages of DSL.

5 marks

Q4ai. What do you understand by the term “wi-fi?”

3 marks

ii. what are the advantages of Phase-Shift Keying (PSK)

3 marks

iii. Explain the TCP/IP model of networking

4 marks

b. What are the differences between the Class *A*, Class *B* and Class *C IP* networks?
5 marks

Q5a. List three common types of threats- especially when the enterprise network is connected to the internet.
3 marks

b. With valid examples, explain the concept of Star topology.
5 marks

c. Define the term “modem” and explain the concept of modulation.
7 marks

Q6a. Explain Time-Division Multiplexing (TDM).
4 marks

b. Write short note on the different types of impairment listed below:

i. Attenuation
2 marks

ii. Delay distortion
2 marks

iii. Noise
2 marks

c. Explain how the concept of *DSL* works
5 marks