



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI, ABUJA
FACULTY OF SCIENCES
DEPARTMENT OF COMPUTER SCIENCE
2023_2 EXAMINATIONS

COURSE CODE: CIT722

COURSE TITLE: COMPUTER NETWORKS

COURSE CREDIT: 3 UNITS

TIME ALLOWED: 2½ HOURS

INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER FOUR (4) QUESTIONS

QUESTIONS

Question One (22 marks)

- 1a) Clearly distinguish between peer-to-peer and client/server network operating systems. (5mks)
- 1b. Broadly compare the functions of routers and bridges. (5mks)
- 1c. Itemize any five (5) parts of the file server. (4mks)
- 1d. Write briefly on the 5-4-3-rule in setting up a tree topology using Ethernet protocol. (4mks)
- 1e. Highlight the five (5) design issues of the physical layer in the OSI model. (4mks)

[22 marks]

Question Two (12 Marks)

- 2a. Itemize the three-networking hardware needed to set up a small network and describe any two of them. (5mks)
- 2b. Write a short note on repeaters. (2mks)
- 2c. Enumerate all the types of most common network topologies and outline the advantages of any two of them. (5mks)

Question Three (12 Marks)

- 3a. Briefly summarize the development of internet from the mid '80's to date. (5mks)
- 3b. There are two (2) types of query messages used to determine multicast groups of hosts or devices, identify and discuss them briefly. (4mks)
- 3c. The Internet Control Message Protocol (ICMP) query messages are used to identify network problems. List any four of these messages. (2mks)
- 3d. There are many reasons why a network may not work, outline any four (4) of them. (1mk)



Question four (12 Marks)

- 4a. Outline the three (3) elements all networks must have. **(3mks)**
- 4b. Write briefly on sharing on an Ethernet. **(4mks)**
- 4c. In computer networking, compare the TFTP and PPTP. **(4mks)**
- 4d. List the three (3) disadvantages of wireless LANs. **(1mk)**

Question Five (12 Marks)

- 5a. In networking, write short notes on file sharing, resource sharing and security issues. **(6mks)**
- 5b. Different protocols perform different functions, so it is difficult to generalize their properties. Enumerate some basic properties common to most of them. **(3mks)**
- 5c. Outline the three (3) configuration steps in the client/server network model. **(1mk)**
- 5d. Enumerate the three (3) advantages of fiber optics cable. **(2mks)**

Question Six (12 Marks)

- 6a. Write down four (4) commonly accessible networking hardware. **(3mks)**
- 6b. Carry out a detailed description of the session layer of the OSI model. **(3mks)**
- 6c. The OSI model can be sub divided into two groups – upper and lower layers. Tabulate the items under each group. **(3mks)**
- 6d. Summarize the differences between Metropolitan Area Network (MAN) and Wide Area Network (WAN). **(3mks)**