



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Asikiwe Expressway, Jabi – Abuja
Faculty of Computing

2025_2 EXAMINATIONS

COURSE CODE: CIT 722

COURSE TITLE: COMPUTER NETWORKS

CREDIT: 3 Units

TIME ALLOWED: 3 Hours

INSTRUCTION: Question ONE is compulsory and any other three (3) questions

Question One

- 1a. i. Communication has gone through several phases of development. Elaborately describe the developments in communication. **[5 marks]**
- 1a. ii. Elaborately discuss the workstations as a networking hardware. **[2 marks]**
- 1a. iii. What does the network interface card (NIC) provide? **[1 mark]**
- 1b. i. In the context of circuit switching, what is “blocking”? **[2 marks]**
- 1b. ii. With the aid of a detailed diagram describe a Networking Hardware showing all the associated components. **[5 marks]**
- 1c. i. Write a short note on *performance* as a key issue that must be trashed out very carefully before we go for a computer network **[2 marks]**
- 1c. ii. To the best of your ability, define a Computer Network. **[3 marks]**
- 1d. i. Exclusively discuss the term Switch as a key Networking Hardware **[5 mark]**

Question Two

- 2a. i. Enumerate five (5) advantages and three (3) disadvantages of Client-Server Network. **[8 marks]**
- 2a. ii. What is the most commonly used topology in the world of computer networking? **[1 mark]**
- 2b. i. What does protocol mean in computing? **[1 mark]**
- 2b. ii. Adequately discuss the following protocols. **[5 marks]**
 - i. Address Resolution Protocol
 - ii. Reverse Address Resolution Protocol

Question Three

- 3a. i. With the aid of an appropriate and well labeled diagram, illustrate the conceptual flow of bits across an Ethernet **[4 marks]**
- 3a. ii. State the key disadvantage of a physically direct-wired LAN and explain how a star-wired LAN remedies this disadvantage. **[2 marks]**
- 3b. i. State five (5) vivid examples of an Error Reporting Message. **[4 marks]**
- 3b. ii. From users’ point of view, what is the only interesting aspect about protocols? **[2 marks]**
- 3b. ii. What is the Asynchronous Transfer Mode (ATM) **[3 marks]**

Question Four

- 4a. i. Enumerate the three (3) advantages and three (3) disadvantages of the Star topology **[6 marks]**
- 4a. ii. What are the key elements of a protocol? **[3 marks]**
- 4b. i. Explain Carrier Sense on a Multi-Access Network (CSMA). **[4 marks]**
- 4b. ii. In the client/server network model, how is the central computer described and what name is given to every other devices connected to this central computer? **[2 mark]**

Question Five

- 5a. i. What are two (2) ways that protocols can be implemented? **[2 marks]**
- 5b. ii. Enumerate six (6) Basic Properties of a Protocol. **[3 marks]**
- 5b. i. What is a protocol in Data Communication? **[1 mark]**
- 5b. ii. Describe the Physical Layer of the OSI Model. **[2 marks]**
- 5b. iii. Discuss the History of Ethernet. **[4 marks]**