

**FEDERAL UNIVERSITY OF TECHNOLOGY MINNA**  
**SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY**  
**DEPARTMENT OF INFORMATION AND MEDIA TECHNOLOGY**  
**2<sup>ND</sup> SEMESTER, 2011/2012 ACADEMIC SESSION EXAMINATION**

**Course Title:** Practical Computer Networking

**Course Code:** CIT 322 **Course Unit:** 3

**Instruction:** Answer only three (3) questions.

**Time Allowed:** 2 hours

**Question 1**

- a. Federal University of Technology Minna is planning to setup a network system for all the departments. The ITS centre is insisting that, they want a centralized network but the Schools are agitating to manage their own network. As a networking student,
- i. Do you think it is feasible?
  - ii. Give reason(s) for your answer above (a)
  - iii. What will be your recommendations to ensure that departments and Schools in FUT Minna (both campuses) are interconnected?
- b. Describe with examples how Asynchronous and Synchronous Transmission Mode work.
- c. Explain the following concepts: (i) Global Addressing (ii) User Datagram Protocol (iii) Routing
- d. Briefly discuss the different types of fiber optic cable connectors

**Question 2**

- a. Enumerate and discuss the basic requirements for effective communication system in a network.
- b. In a tabular form compare Simplex, Half Duplex and Full Duplex Transmission Mode
- c. TCP/IP model and OSI model are common concept in networking. Distinguish between the two concepts with examples.
- d. There are different types of twisted pair cables for different purposes, discuss the categories of twisted pair cable under the following headings: Name, Type, Bandwidth, Application and Notes

**Question 3**

- a. Distinguish between the following components of a computer network:
- i. Network Interface Card and Satellite
  - ii. Repeater and Hub
  - iii. Bridge and Switch
  - iv. Router and Modem
- b. Compare and contrast with diagram the difference between Ring topology and Cellular topology
- c. Distinguish between the following:
- i. Segmentation vs bit ordering
  - ii. Media Access Control and Logic Link Control
- d. When will you recommend Coaxial Cables and why?

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#### Question 4

- a. An Organisation is contemplating on interconnecting her devices like, printers, scanners, database and computers. Juxtapose why they should have a network.
- b. Distinguish with adequate examples between a Mesh topology and a star topology
- c. Explain the following concepts; (i) Reliable Protocol (ii) Transmission Control Protocol (iii) Packetization of Data
- d. Discuss the different types of Twisted Pair Cables