



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
University Village, Plot 91, Cadastral Zone, Nnamdi Azikiwe  
Expressway, Jabi – Abuja

**FACULTY OF SCIENCE**  
**DEPARTMENT OF COMPUTER SCIENCE**

**2024 I EXAMINATION**

**Course Code:** CIT423  
**Course Title:** Computer Networks and Communication  
**Credit:** 3 units  
**Time allowed:** 2½ Hours  
**Instruction:** Answer Question **ONE (1)** and any other **THREE (3)** Questions

- 1a. Write short notes on Time Division Multiplexing **(5Marks)**
- b. What is the difference data rate and bandwidth **(4Marks)**
- c. List and explain the functions of the Data Link sublayers **(5Marks)**
- d. Describe the basic characteristics of a star topology **(5Marks)**
- e. Mention four (4) examples of error detection/correction codes **(6Marks)**
  
- 2a. Describe the principle of Stop and Wait as a retransmission strategy **(5Marks)**
- b. Explain how the problem of redundant transmission that creates duplicate frame by Stop and Wait can be solved **(4Marks)**
- c. Distinguish between these protocols: UDP and TCP **(6marks)**
  
- 3a. List and explain the two (2) sliding window techniques of packet retransmission **(6Marks)**
- b. Distinguish between contention-based and polling-based MAC protocols **(6Marks)**
- c. Describe how a Token Passing network operates **(3Marks)**
  
- 4a. Write short notes on the principle of CSMA/CD **(4Marks)**
- b. Explain the importance of network system administration **(4Marks)**
- c. What are the challenges of network system administration **(7Marks)**
- 5a. Define checksum and list three (3) basic components of a packet **(5Marks)**
- b. Differentiate between the data and header section of a packet **(6Marks)**
- c. Write short notes on protocol **(4Marks)**