



NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, 91 Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja
FACULTY OF SCIENCE
DEPARTMENT OF COMPUTER SCIENCE

CIT465: Network Administration

Credit Units: 2

Instruction: *Answer Question (1) (25marks) and any other three questions each carrying 15 marks*
Time: 2 hours

- 1a) Different vendors have invested in different networking technologies, with different Media Access Control (MAC) specifications that involve several interfaces and cables. List the technologies that have been successfully adopted by major vendors. **(4 marks)**
- b) Write short notes on any three of the technologies listed in (a) above **(12 marks)**
- c) What layers of the ISO-OSI Reference Model are covered under end to end layer connectivity? Explain briefly the function of each one of them. **(9 marks)**
- 2a) What are the advantages and disadvantages of packet switching over circuit switching? **(9 marks)**
- b) Explain the term “IP Address” and its format. **(6 marks)**
- 3a) Using relevant diagram(s) where relevant, write short notes on the following network topologies:
 - (i) Star topology **(3 marks)**
 - (ii) Bus topology **(3 marks)**
 - (iii) Direct connection or one to one topology **(3 marks)**
- b) Write short notes on the access methods used in Local Area Networks (LANs). **(6 marks)**
- 4a) Discuss the CSMA/CD and CSMA/CA protocols. **(7 marks)**
- b) Briefly explain the various names a computer (host) connected to a network can assume. **(8 marks)**
- 5a) One problem with very large networks is that *broadcast messages* create traffic which can slow down a busy network. List and explain the way(s) this problem can be resolved stating the advantages of each technique where applicable. **(10 marks)**
- b) Explain how host naming confusion is resolved in the following network services:
 - i) Domain Name Service (DNS) **(2 marks)**
 - ii) Windows Internet Name Service (WINs) **(3 marks)**
- 6a) List and explain the tools used for discovering the available resources when performing a local network analysis. **(6 marks)**
- b) Write short notes on the technologies that allow contention/competition to take place in a network **(9 marks)**