



NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, 91 Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja
FACULTY OF SCIENCES
2022_1 EXAMINATION

COURSE CODE: CIT423

COURSE TITLE: Computer Networks and Communication

CREDIT: 2 Units

TIME ALLOWED: 2½ Hours

INSTRUCTION: Answer Question ONE (1) and any other Three (3) Questions

QUESTION 1

- a) Define Computer Network. (3 marks)
- b) Itemize some of the applications of computer network. (3 marks)
- c) What is the goal of setting-up a computer network? (3 marks)
- d) With an appropriate diagram, explain the possible classifications of compute network topologies. (9 marks)
- e) In a tabular form, list four differences between Hubs and switches. (6 marks)
- f) Itemize the activities involved in network administration. (6 marks)

QUESTION 2

- a) Explain classifications of computer networks based on geographical coverage. (6 marks)
- b) Explain bridges. Hence, itemize it's three purposes. (6 marks)
- c) Define Multiplexing. (3 marks)
- d) Describe two types of Multiplexing. (5 marks)

QUESTION 3

- a) With a well labelled diagram, describe Open System Interconnection (OSI) reference model. (9 marks)
- b) Itemize six differences between OSI and TCP/IP reference model. (6 marks)
- c) Itemize five functions of a MODEM. (5 marks)

QUESTION 4

- a) Write short note on the following:
 - i. Packet Switching.
 - ii. Circuit Switching.
 - iii. Frame relay.

- iv. Asynchronous Transfer Mode. (8 marks)
- b) Compare bridges and router. (3 marks)
- c) Itemize the advantages small, fixed-sized cells. (4 marks)
- d) State five metrics (conditions) of Exterior Gateway Routing Protocol (EGRP) to determine the best route in a network. (5 marks)

QUESTION 5

- a) Itemize and explain two classifications of Transmission media. (4 marks)
- b) What is Token passing? (5 marks)
- c) List typical tasks performed by protocols. (6 marks)
- d) What is the full meaning of the following standard organizations?
 - i. **ANSI**
 - ii. **ITU**
 - iii. **IEEE**
 - iv. **ISO**
 - v. **VESA.** (5 marks)