



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**University Village, 91 Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja**  
**FACULTY OF SCIENCES**  
**2023\_1 POP EXAMINATION<sub>23</sub>**

**COURSE CODE: CIT 423**

**COURSE TITLE: Computer Networks and Communication**

**CREDIT: 2 Units**

**TIME ALLOWED: 2½ Hours**

**INSTRUCTION: Answer Question ONE (1) and any other TWO (2) Questions**

**QUESTION 1**

- a) Define Computer Network. 3 marks
- b) Explain classifications of computer networks based on geographical coverage. 6 marks
- c) Highlight few applications of computer network. 3 marks
- d) What is the goal of setting-up a computer network? 3 marks
- e) Itemize and explain two classifications of Transmission media. 4 marks
- f) What is Token passing? 5 marks
- g) Write short note on the following:
  - i. Electronic mail.
  - ii. World wide web (WWW)
  - iii. File Transfer Protocol (FTP).
  - iv. Asynchronous Transfer Mode. 6 marks

**QUESTION 2**

- 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 3**

- a) With an appropriate diagram, explain the possible classifications of compute network topologies. 9 marks
- b) In a tabular form, list four differences between Hubs and switches. 6 marks
- c) Itemize the activities involved in network administration. 6 marks

**QUESTION 4**

- a) Compare bridges and router. 3 marks
- b) Itemize the advantages small, fixed-sized cells. 4 marks
- c) State five metrics (conditions) of Exterior Gateway Routing Protocol (EGRP) to determine the best route in a network. 5 marks
- d) Explain bridges. Hence, itemize it's three purposes. 8 marks

**QUESTION 5**

- a) Explain the differences between Point-to-point and Broadcast network. (4 marks)
- b) Explain six (6) parameters associated with Transmission Control Protocol (TCP) header. (12 marks)
- c) What is the full meaning of the following standard organizations?
  - i. **ITU**
  - ii. **IEEE**
  - iii. **ISO**
  - iv. **VESA.**

(4 marks)