



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA**  
**FACULTY OF SCIENCE**  
**OCTOBER/NOVEMBER 2016 EXAMINATION**

**COURSE CODE:** CIT311  
**COURSE TITLE:** COMPUTER NETWORKS  
**CREDIT UNITS:** 3  
**TIME ALLOTTED:** 2 HOURS, 30 MINUTES  
**INSTRUCTION:** ***Answer any FIVE questions. Cordless nonprogrammable calculators may be used.***

1.
  - a) Write brief notes on the following network types:
    - i. **Wide Area Network**
    - ii. **Local Area Network**
  - b) Briefly describe three main **applications** of a computer network
2.
  - a) Using sketches describe three different types of network **topologies**.
  - b) Briefly describe the **OSI Reference model** listing all its layers in their proper order.
3.
  - a) Briefly describe the following:
    - i. IEEE Standard 802.3 Ethernet
    - ii. IEEE Standard 802.3 Ethernet
4.
  - a) Explain what transmission medium is using three examples to illustrate.
  - b) Distinguish between Data Rate and Bandwidth.
5.
  - a) Briefly describe two sliding window techniques.
  - b) Write brief notes on each of the following routing algorithms:
    - i. Shortest Path routing
    - ii. Flooding
6.
  - a) Briefly explain the main factors that bring about network congestion.
  - b) Write a brief note on each of the following:
    - i. Modem
    - ii. Bridge
    - iii. Hub
    - iv. Repeater
7.
  - a) Briefly describe **the concept** of Quality of Service (QoS).
  - b) Briefly describe the format of a TCP Header.