****

**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA**

**FACULTY OF SCIENCE**

**OCTOBER/NOVEMBER 2016 EXAMINATION**

|  |  |
| --- | --- |
| **COURSE CODE:** | **CIT722** |
| **COURSE TITLE:** | **COMPUTER NETWORKS** |
| **CREDIT UNITS:** | **3** |
| **TIME ALLOTED:** | **2 HOURS, 30 MINUTES** |
| **INSTRUCTION:** | ***Answer any FIVE questions. Cordless nonprogrammable calculators may be used.*** |

* 1. Briefly describe the following network types:
     1. **Local Area Network**
     2. **Metropolitan Area Network**
     3. **Wide Area Network**
  2. Distinguish between **point-to-point** and **broadcast** networks.
  3. Using sketches describe three different types of network **topologies**.
  4. Briefly describe the OSI Reference model listing all its layers in their proper order.
  5. Write a brief note on each of the following:
     1. Transmission Control Protocol (TCP)
     2. User Datagram Protocol (UDP)
  6. Briefly explain what transmission medium is, listing three examples.
  7. Explain clearly what is meant by multiplexing, describing two techniques used to implement it.
  8. Briefly explain what Media Access Control is describing two types of protocols used for it.
  9. Distinguish between **adaptive** and **non-adaptive** routing algorithms.
  10. Write brief notes on each of the following routing algorithms:
      1. Shortest Path routing
      2. Flooding
  11. Briefly explain the function of a Domain Name System (DNS) in a TCP/IP Network.
  12. Write a brief note on each of the following:
      1. Switch
      2. Bridge
      3. Hub
      4. Router
  13. Briefly explain what an ATM Network is listing four of its benefits.
  14. Write a brief note on each of the following types of communication using examples to illustrate:
      1. Baseband
      2. broadband