FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT OF INFORMATION AND MEDIA TECHNOLOGY

2ND SEMESTER EXAMINATION

COURSE CODE: CIT322   COURSE TITLE: Practical Computer Networks

COURSE UNIT: 3 UNITS   SESSION: 2013/2014   DURATION: 2 hours

INSTRUCTION: Attempts any 4 questions with at least one from each section.
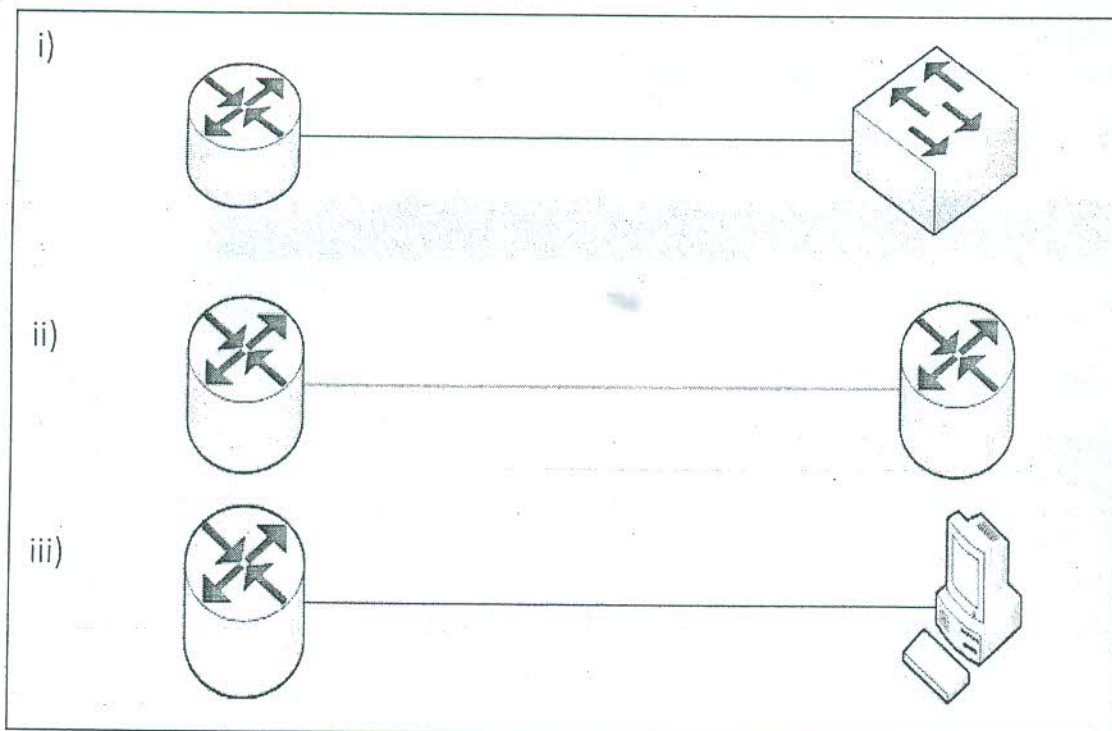
SECTION A.

QUESTION 1.
a. With the help of a diagram, outline any 3 Network Topologies that you know.
b. Explain how CSMA/CD coordinates access on an Ethernet network.
c. List the two sub layer of the Data link layer of the OSI model.

QUESTION 2.
a. Outline and briefly explain the various layers of the TCP/IP model. Support you answer with a diagram.
b. Why is a protocol required for communication in a network?
c. What type of Ethernet cable are used in the following connections

SECTION B

QUESTION 3.
a. Outline four Internet Layer Protocols you know.
b. List the range of IP addresses for class A, B and C addresses.
c. Node Address of all 0s is reserved for what function?
d. Explain any 2 types of Broadcast addresses that you know.

QUESTION 4.

a. What is the rationale behind the reservation of Private IP addresses?

b. The ISP for Ministry of Health just informed the Network Administrator that they are implementing a new policy on their network which requires all Client networks to disable Network Address Translation (NAT) for all traffic traversing the ISP network. An IP address block of 10.10.16.0 with subnet mask 255.255.240.0 was then assigned for the ministry's network. Since the ministry has 5 departments, you are required to create at least 5 subnets from the given address block. Indicate the

    i.   Network address,

    ii.   Broadcast address,

    iii.   The valid range of IP addresses and

    iv.   Number of hosts in the networks for all 5 networks.

(Show all working)

SECTION C

QUESTION 5.

a. Explain any two WAN connection types that you know.

b. Outline any three WAN layer 2 protocol that you know.

c. Briefly explain any two types of WIFI networks

(Support your answer with diagrams where necessary)

QUESTION 6.

a. What do you understand by the term Routing?

b. Explain any 2 types of Routes that you know.

c. Populate the table with the correct Port numbers for the protocols where applicable.

PROTOCOL	TCP	UDP
FTP		
DNS		
HTTP		
HTTPS		

d. Outline three characteristics of a Connection Oriented Connection.

GOOD LUCK