FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT OF INFORMATION AND MEDIA TECHNOLOGY

SECOND SEMESTER 2014/2015 EXAMINATION

COURSE CODE:	CIT322
COURSE TITLE:	PRACTICAL COMPUTER NETWORKS
CREDIT UNITS:	3
TIME ALLOWED:	2 hours
COURSE LECTURER(S):	M.E. Bima
NUMBER OF QUESTIONS:	23 OBJECTIVES/FILL IN THE GAP, 4 THEORIES
NUMBER OF PAGES:	3 (INCLUDING THIS PAGE)

INSTRUCTIONS

- Answer all questions
- Do **not** use red pen
- Please use a clear handwriting
- This exam is closed book, closed notes, closed laptop and closed cell phone
- Please use non-programmable calculators only

SECTION A: FILL-IN-THE-GAP QUESTIONS

1. _____, _____ and _____ are the three main types of network topology. (3 Marks)

2. The Ethernet use _____ network topology. (1 Marks)

3. An example of a network model that uses layered approach is _____. (1 Mark)

4. The three-way handshake is used to establish a _____ circuit. (1 Mark)

5. A Routing Table typically contains information about _____, _____ and _____. (3 Marks)

6. Application, Presentation and Session layers of the reference model is equivalent to _____ of TCP/IP model. (1 Mark)

7. TCP/IP model is also known as _____. (1 Mark)

8. OSI in its full form is _____. (1 Mark)

9. _____ is the process of making an Ethernet Cable. (1 Mark)

10. _____, _____ and _____ are examples of cables that can be used in a Network. (3 marks)

Section B: MULTIPLE CHOICE QUESTIONS
(Circle your choices)

11. What is the first packet sent during a 3-way handshake? (1 Mark)
(A) SYN   (B) ACK-SYN   (C) ACK   (D) SET

12. What is the second packet sent during a 3-way handshake? (1 Mark)
(A) SYN   (B) ACK-SYN   (C) ACK   (D) SET

13. What is the last packet sent during a 3-way handshake? (1 Mark)
(A) SYN   (B) ACK-SYN   (C) ACK   (D) SET

14. Which of the following is used to identify a node in a Frame relay network? (1 Mark)
(A) Port Number   (B) IP address (C) MAC address   (D) DLCI

15. Identify the two options that are most similar in mode of operation. (2 Marks)
(A) Port Number   (B) IP address (C) MAC address   (D) DLCI

16. An Ethernet cable consists of (1 Mark)
(i) Twisted pair cable (ii) Optical fibre (iii) RJ45
A) i only (B) ii only (C) i and iii   (D) All of the above

7. A _____ is a type of Ethernet Cable (1 Mark)
A) Straight through (B) Coaxial   (C) Fibre optic (D) Twisted pair

8. Which of the following is the Subnet Mask for Class C IP addresses? (1 Mark)
A) 255.0.0.0 (B) 255.255.0.0   (C) 255.255.255.0   (D) 255.255.255.255

9. The Console cable is used to _____. (1 Mark)

Connect to the internet   (B) Configure a networking device   (C) Connect similar devices   (D) Connect disparate devices

20. Which of the following is not a class of Routing Protocol? (1 Mark)
(A) Distance Vector (B) RIP (C) Link State (D) Hybrid

21. Which of the following is a broadcast addresses? (1 Mark)
(A) 255.0.0.0 (B) 255.255.0.0   (C) 255.255.255.0   (D) 255.255.255.255

Given IP Address 192.168.0.3 and Subnet Mask 255.255.255.248, answer questions 22 and 23.

22. Which is the Broadcast Address of the network? (1 Mark)
(A) 192.168.0.6   (B) 192.168.0.5   (C) 192.168.0.7   (D) 192.168.0.8

23. How many hosts are on the network? (1 Mark)
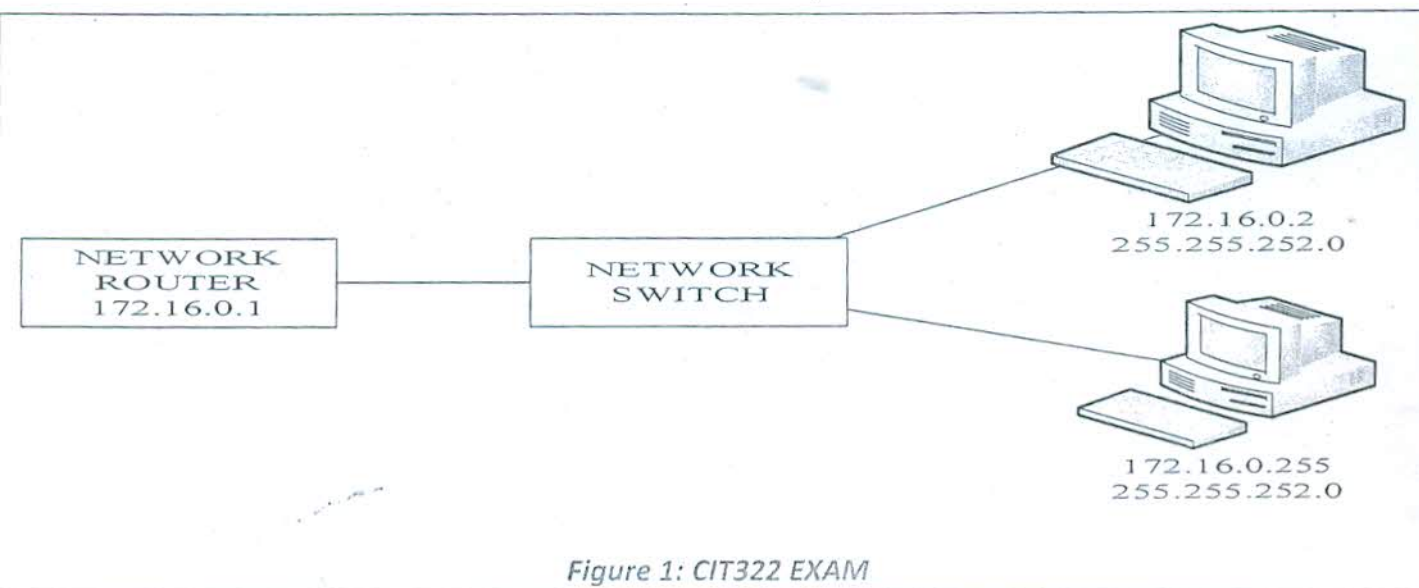(A) 8   (B) 6   (C) 4   (D) 10

SECTION C: THEORETICAL QUESTIONS

1. Determine the

   i.   Broadcast address
   ii.   Network Address and
   iii. Range of Valid node IP addresses

Of the first three networks if you were assigned a network address of 10.10.0.0 with subnet mask 255.255.0.0 and are required to make room for 512 hosts on each network. (10 Marks)

2. Considering figure 1,

Figure 1: CIT322 EXAM

   i.   Can you identify a problem with the network? Explain your response.
   ii.   What are the appropriate symbols for the Network Switch and Router?
   iii. Host 172.16.0.2 attempted to ping the IP address 172.16.1.0 but it failed. As a network administrator, troubleshoot the above network and give reasons why the ping attempt failed. (10 Marks)
   List and explain any three types of WAN connection types you know.   (6 Marks)
   Explain what is meant by Pinhole Congestion in Routing Information Protocol. (4 Marks)