

KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2010/2011

OPEN, DISTANCE AND E-LEARNING EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE (INFORMATION TECHNOLOGY)

SIT 113 NETWORKING

DATE: Wednesday 2nd February 2011

TIME: 2.00p.m -4.00p.m

INSTRUCTIONS

Attempt question 1 in SECTION A and any other 2 in SECTION B questions

SECTION A: 30 Marks

Question 1

1. Describe the following networking devices (6 marks)
 - i. Repeater.
 - ii. Switches.
 - iii. Router.
2. Distinguish between a ring topology and a star topology (4 marks)
3. Distinguish between the OSI model and TCP/IP model (6 marks)
4. Explain **two** benefits of networking a computer (2 marks)
5. Describe the client-server architecture in a network (6 marks)
6. Explain any two components of the Internet (6 marks)

SECTION B: 40 Marks

Question 2

1. What role has the Internet played in the IT revolution? (4 marks)
2. Explain each of the seven layers of the OSI model in the Network layered architectures (6 marks)
3. Distinguish between UDP and TCP protocols (6 marks)
4. Outline **two** Similarities and **two** differences between OSI and TCP/IP models (4 marks)

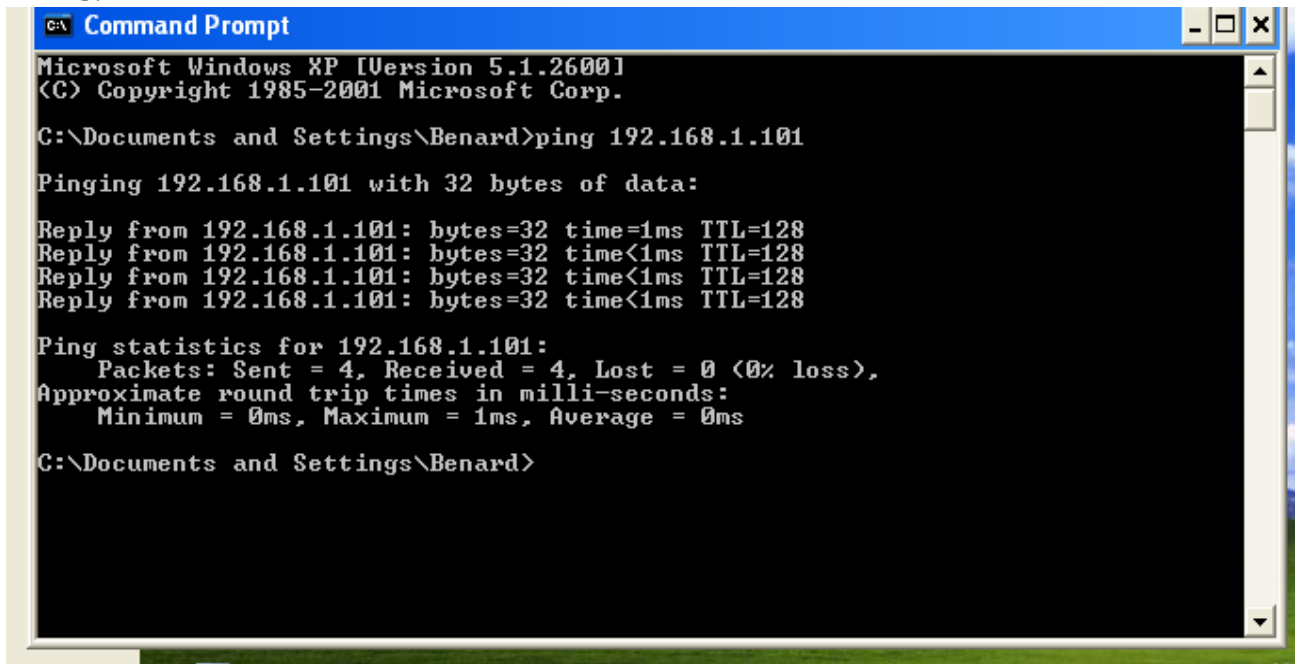
Question 3

1. Explain **Three** factors to consider when selecting the type of physical media to deploy in a LAN? (6 marks)
2. Explain the **three** types of Physical networks (6 marks)
3. List where a cross-over UTP could be used in connecting network devices (2 marks)
4. Explain **three** disadvantages of Copper media over fiber media. (6 marks).

Question 4

1. What is sub-netting?, what are its advantages (3 marks)
2. Classify the following IP addresses in class A, B, C, D or E (6 marks)
 - a) 10.2.28.1
 - b) 192.168.1.100
 - c) 168.10.1.150
 - d) 127.0.0.0
 - e) 28.2.100.20
 - f) 200.55.1.100

3.



```
C:\ Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Benard>ping 192.168.1.101

Pinging 192.168.1.101 with 32 bytes of data:

Reply from 192.168.1.101: bytes=32 time=1ms TTL=128
Reply from 192.168.1.101: bytes=32 time<1ms TTL=128
Reply from 192.168.1.101: bytes=32 time<1ms TTL=128
Reply from 192.168.1.101: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Documents and Settings\Benard>
```

Fig 1.

- g) What is the name of the above command (2 marks).
- h) What does it do and how does it work (4 marks).
- i) Explain the results displayed in fig 1 above (5 marks)

Question 5

- 1. Differentiate between Peer to peer network and a Server based network (8 marks)
- 2. What are the Advantages of a server based network (4 marks)
- 3. Describe Four requirements in a LAN design (8 marks)