



MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

**2018/2019 ACADEMIC YEAR
SECOND YEAR SECOND SEMESTER**

**SCHOOL OF SCIENCE
BACHELOR OF SCIENCE
(COMPUTER SCIENCES)**

COURSE CODE: COM 2206

COURSE TITLE: DATA

**COMMUNICATION
NETWORK**

DATE: 26TH APRIL, 2019
13:00HRS

TIME: 11:00 -

INSTRUCTIONS TO CANDIDATES

Answer Question **ONE** and any other TWO questions

This paper consists of 3 printed pages. Please turn over.

SECTION A (30 Marks): Answer all questions from this section

QUESTION 1

(a) State and briefly explain three tools for finding errors in a network

**(3
Marks)**

(b) Large networks are built by applying routing between nodes. State and explain three ways of doing this.

(6 Marks)

(c) Give four disadvantages of installing a network

(4 Marks)

(d) Give three disadvantages of fiber optic cables

**(3
Marks)**

**(3
Marks)**

(e) Explain the importance of Network Address Translation (NAT)

(3 Marks)

(f) Given the network address 132.21.0.0, find the class, the block, and the range of the addresses

(3 Marks)

(g) Explain the importance of penetration tests to an organization

(3 Marks)

(h) What is the difference between a network ID and a host ID

(2 Marks)

(i) State three Penetration Testing Tools

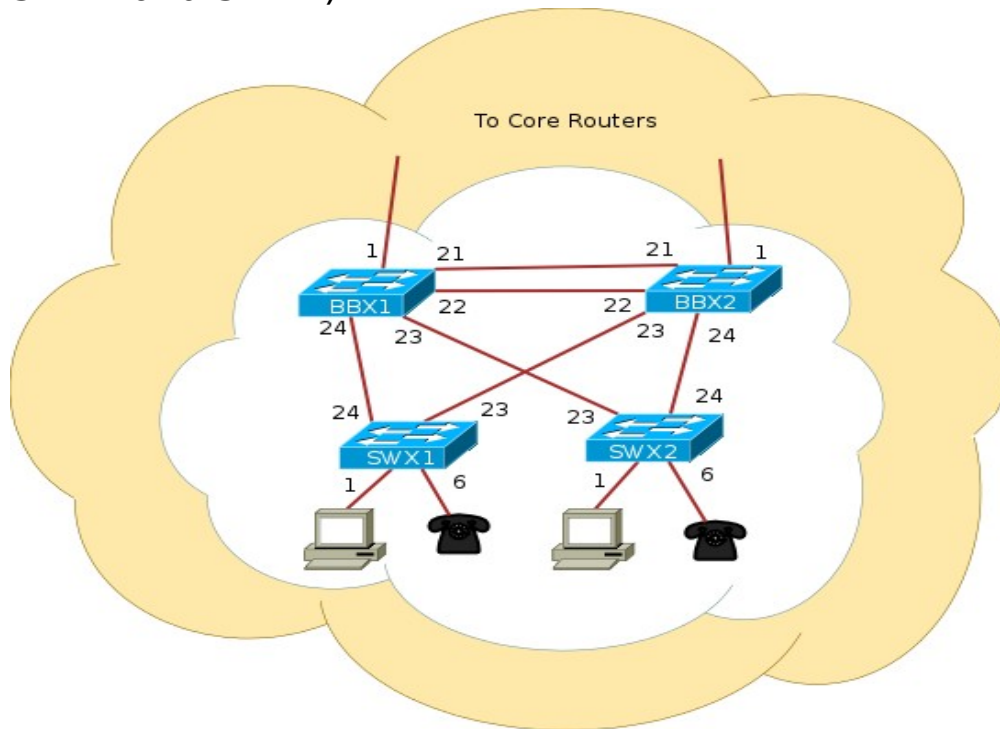
**(3
Marks)**

**(3
Marks)**

SECTION B (40 Marks): Answer any two questions from this section.

QUESTION 2

- (a) The following diagram shows four switches (BBX1, BBX2, SWX1 and SWX2)



Write the commands to perform the following operations on each of the switches

(10 Marks)

- i) Clear all configurations on the switches
- ii) Name the switches
- iii) Configure Authentication
- iv) Assign each switch a different IP address
- v) Configure Virtual LAN (VLAN)

- (b) A good network design is modular and hierarchical, with a clear separation of functions explain

(4 Marks)

- (c) Discuss the following Media Access Control Methods **(6 Marks)**

- i) TDMA
- ii) CSMA/CD
- iii) Demand Priority

QUESTION 3

- (a) A company is granted the site address 201.70.64.0 (class C).
The company needs six subnets. Design the subnets
(5 Marks)
- (b) Explain the security measures that can be used to protect users
and wireless Networks **(5 Marks)**
- (c) In designing a LAN for an organization explain five most
important things you'll put into consideration
(5 Marks)
- (d) Give five main features to consider when selecting a Network
Operating System
(5 Marks)

QUESTION 4

- (a) Find the class of the following addresses **(2 Marks)**
i) 158.223.1.108
ii) 227.13.14.88
- (b) Explain four considerations when choosing a topology
(4 Marks)
- (c) Explain any three network protocols
(6 Marks)
- (d) Explain the steps used to design and implement a new network
(8 Marks)

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