**W1-2-60-1-6**

##  JOMO KENYATTA UNIVERSITY

**OF**

**AGRICULTURE AND TECHNOLOGY**

# University Examinations 2014/2015

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

**BIT 2204 : NETWORK SYSTEMS ADMINISTRATION**

**DATE: AUGUST 2015 TIME: 2 HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER**

 **TWO QUESTIONS.**

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**QUESTION ONE (30 MARKS)**

(a) (i) Explain four main tasks of network administrator. [4 marks]

 (ii) State and explain four factors that affect the scope of network

management. [8 marks]

(b) With regard to Microsoft Windows NT4.0, what is Remote Access Service (RAS)? What is it used for? [3 marks]

(c) Explain the difference between the following: [4 marks]

1. Workgroup and domain.
2. Server and workstation.
3. Interactive logon and remote logon.
4. Physical disk and logical disk.

(d) Briefly explain the AGLP group strategy that helps the network administrator to manage a large Windows NT network. [5 marks]

(e) Compare UNIX and Windows NT for PCs and indicate which of the two operating systems you would select for a small firm that plans a 20-PC intranet. [6 marks]

**QUESTION TWO (20 MARKS)**

(a) Discuss the six-step process to server analysis and optimization. [12 marks]

(b) System bottlenecks generally appear within the four major server analysis and optimization resources within Windows NT environment. The network administrator uses performance monitor to monitor current activities to determine if any system battlements are present:

1. What is system bottleneck? [1 mark]
2. What are the solutions to the following: [7 marks]
3. Disk bottlenecks.
4. Processor bottlenecks.
5. Network subsystem bottlenecks in an application environment.

**QUESTION THREE (20 MARKS)**

(a) A 10-PC office LAN is planned. Explain three features the network administrator would help select network interface cards for the PCs.

 [6 marks]

(b) Discuss the factors that determine the number of users a network server can support. [6 marks]

(c) KAFTEC ITC’s database server runs on Pentium 133MHz with IGB IDE hard disk and 16M RAM students have complained about the slow response speed. What steps would you take as network administrator to improve the speed of the server? Explain the expected impact of each step. [8 marks]

**QUESTION FOUR (20 MARKS)**

(a) Explain in details what you understand by Integrated Service Digital Network

 (ISDN). [5 marks]

(b) “ISDN is a half-baked solution to data communication problems”. Do you agree with this statement? Discuss your answer, giving clear examples.

 [15 marks]

**QUESTION FIVE (20 MARKS)**

(a) The TCP/IP has become an industry-standard protocol that is widely used. State and explain reasons that make the protocol so popular. [8 marks]

(b) With regard to TCP/IP protocol suit, explain the functions of the following protocols: [8 marks]

1. Address Resolution Protocol (ADP).
2. Internet Control Management Protocol (ICMP).
3. User Datagram Protocol (UDP).
4. Transmission Control Protocol (TCP).

(c) What is the principle difference between connectionless communication and connection-o communication? [4 marks]