

PAN AFRICA CHRISTIAN UNIVERSITY

BACHELORS OF INFORMATION COMMUNICATION TECHNOLOGY

END OF TERM EXAMINATION

DEPARTMENT: COMPUTING & INFORMATION TECHNOLOGY

COURSE CODE: BSIT212

CAMPUS: ROYSAMBU

COURSE TITLE: NETWORK DESIGN & ADMINISTRATION

EXAM DATE: THURSDAY

TIME: 2:00 PM – 6:00 PM

INSTRUCTIONS

- This exam carries a total of SIX Questions of [10 Marks Each]
- Section One (I) is compulsory.
- Answer any 3(Three) Questions from Section Two (II)
- Read all questions carefully before attempting.

Section One Compulsory 10 marks

Question One.

- a) Propose **THREE** strategies that Safaricom as an organization can adopt to maintain a secure and efficiently managed network infrastructure. **[6 marks]**
- b) Discuss **TWO** major network bottlenecks which must be addressed at the design stage to enhance a good network performance for a wireless network.

[4 marks]

Section Two Attempt any Three Questions.

Question Two.

- a) Illustrate as an upcoming Network Security expert, how you will use the following windows command line in network troubleshooting tools.
 - i. **Tracert** **[2 marks]**
 - ii. Netstat **[2 marks]**
- b) Show how you would terminate Straight through UTP or STP copper cable using *ANSI/TIA/EIA-568-B*, standards. **[6 marks]**

Question Three.

As an Expert of Network security expert, you have been supplied with the following network tools, Demonstrate the working and achievements you would obtain deploying them on your entire network.

- i. Mega Ping. **[5 marks]**
- ii. Wireshark **[5 marks]**

Question Four

- a) Imagine you are tasked with designing a secure and efficient network infrastructure for a medium-sized business. Discuss the key considerations you would take into account during the network design process. **[5 marks]**
- b) Provide specific examples of technologies, protocols, and security measures that would contribute to the overall success of the network design. **[5 marks]**

Question Five.

- a) You are supposed to carry out a vulnerability assessment of a given network (x), The only tool available for you is the **FastResolver**.

Demonstrate your entire experimental process and key outcome that the tool will give out. **[6 marks]**

- b) As a network administrator you are to use Remote desktop to support your users, Demonstrate the basics on how you will configure the same using Windows server platform. **[4 marks]**

Question Six.

- c) Explain TWO key elements in network management and security. **[4marks]**

- d) Explain TWO challenges in network management and security **[2 marks]**

- e) For an effective network management and operations, A network administrator has to consider various elements of effective network security. Illustrate how you shall use the Network policy document to reinforce and manage Pan African Christian University Network

[4 marks]

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