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JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

# **UNIVERSITY EXAMINATIONS 2017/2018**

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

**BIT 2204 : NETWORK SYSTEM ADMINISTRATION**

**DATE: JANUARY 2018 TIME: 3 HOURS**

**INSTRUCTIONS:**

**ANSWER QUESTION ONE [COMPULSORY] AND ANY OTHER TWO QUESTIONS**

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**QUESTION ONE [30 MARKS]**

1. Discuss five roles of a system administrator [3 marks]
2. JKUAT Kisii CBD is intending to employ a network system administrator to monitor the computing environment. Describe any fie ethical considerations to be factored in while hiring a system administrator. [5 marks]
3. Automation plots an essential role in service configuration management as the mechanism makes the server reach a desirable state previously defined by provisioning scripts using a tool’s specific language and feature. Discuss three benefits of configuration management for server. [6 marks]
4. State the meaning of the following terms as applied in networking
5. DHCP server [1 mark]
6. DHCP client [1 mark]
7. Scope [1 mark]
8. Subnetting [1 mark]
9. DHCP option [1 mark]
10. An active directory structure has two aspects of components. Briefly describe the two aspects. [5 marks]
11. Differentiate between a local user account and a domain user account as applied in networking. [ 4marks]

**QUESTION TWO [20 MARKS]**

1. There are many configuration tools available in the market, each one with a different set of features and different complexity levels. Describe factors to be considered before choosing a configuration management tools. [8 marks]
2. Dynamic host configuration protocol (DHCP) automatically provides an internet protocol (IP) host with the IP address and other related configuration information such as subnet mask and default hence reducing network administration. Discuss five features that necessitate DHEP to reduce network administration [10 marks]
3. Explain an IP address conflict as applied in networking [2 marks]

**QUESTION THREE [20 MARKS]**

1. Explain a default gateway [2 marks]
2. Microsoft active directory offers some features that make it a highly flexible directory service. Discus the five major features [10 marks]
3. Define network troubleshooting and discuss three major troubleshooting techniques as applied in networking. [8 marks]

**QUESTION FOUR [20 MARKS]**

1. Discuss three major functions of a domain controller as applied in active directory’s physical structure. [6 marks]
2. System administrators use a group policy object (GPO) to configure use and computer operating environment remotely. State your functions of group policies. [4 marks]
3. Explain the role of windows internet name service (wire) as applied in networking [2 marks]
4. All network system administrators are required to be able to configure, troubleshoot computer networks as was as p…………………administrative work on server and clients. Discuss four major troubleshooting physical connectivity problems he might experience. [8 marks]

**QUESTION FIVE [20 MARKS]**

1. Describe four software tools that can help in solving network connecting problem. [4 marks]
2. Network addresses are designed to be unique across the network although some networks allow for local, private addresses or locally administered addresses that may not be unique. Briefly discuss the difference between class A, class B and class C addresses. [6 marks]
3. Differentiate between domain Name service (DNS) and window internet service (WINS) [4 marks]
4. Explain the role of the following objects as applied in network security
5. Groups [1 mark]
6. Computer accounts [1 mark]
7. User accounts [1 mark]
8. Describe the role of NetBIOS (Network Basic Input/Output System) as applied in networking [3 marks]