



(Knowledge for Development)

KIBABII UNIVERSITY

(KIBU)

UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR

SUPPLEMENTARY/SPECIAL EXAMINATION
YEAR TWO SEMESTER TWO

FOR THE DEGREE
(INFORMATION TECHNOLOGY)

COURSE CODE : BIT 223

**COURSE TITLE : NETWORK ADMINISTRATION
AND MANAGEMENT**

DATE: 11/08/2023 TIME: 8.00A.M. - 11.00A.M. 2HRS

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE [COMPULSORY - 30 MARKS]

- a) What is the role of Network Address Translation (NAT) in network administration [2 Marks]
- b) Discuss why would outsiders appear in the organization for maintenance of a network yet a network administrator are hired for such work? [6 Marks]
- c) Explain how Ethical and Legal aspects come in when doing network administration [4 Marks]
- d) Briefly discuss four duties of a network administrator [4 marks]
- e) State and explain any four devices that can be monitored on a network [8 Marks]
- f) Give reasons why a network administrator will prefer using DHCP to assign IP address to clients [6 Marks]

QUESTION TWO [20 MARKS]

- a) Discuss any four messages exchanged between a DHCP server and client during allocation of IP addresses [8 Marks]
- b) State the two types of DNS Queries and explain the difference between the two [6 Marks]
- c) State and explain any three tools used to monitor a network [6 Marks]

QUESTION THREE [20 MARKS]

- a) State and briefly explain any three network administration categories as per ISO [6 marks]
- b) Differentiate between maintenance and troubleshooting are related to network management [4 Marks]
- c) Elaborate on the benefits of network documentation [10 Marks]

QUESTION FOUR [20 MARKS]

- a) State and explain different Internet Control Message Protocol commands used to test network connection [6 Marks]
- b) State and discuss three main network performance metrics in network administration and management [6 Marks]

- c) State and explain four key elements that make up SNMP-based network management architecture **[8 marks]**

QUESTION FIVE [20 MARKS]

- a) Network management protocols are responsible for ensuring communication between network resources that are increasingly heterogeneous, list any four network management protocols apart from SNMP network management protocol. **[4 marks]**
- b) Explain each of the following tasks related to network administration and security
- (i) Security Analysis **[2 marks]**
 - (ii) Security Plan **[2 marks]**
 - (iii) Security Policy **[2 marks]**
- c) State the meaning of the term network service in network management and administration **[2 marks]**
- d) Explain the importance of Telecommunication Network management (TMN) management architecture **[8 Marks]**