

CS



*(KNOWLEDGE FOR DEVELOPMENT)*

**KIBABII UNIVERSITY  
(KIBU)**

**UNIVERSITY EXAMINATIONS  
2019/2020 ACADEMIC YEAR**

**END OF SEMESTER EXAMINATIONS  
SECOND YEAR SECOND SEMESTER**

**FOR THE DEGREE IN  
(INFORMATION TECHNOLOGY)**

**COURSE CODE: BIT 223**

**COURSE TITLE: NETWORK ADMINISTRATION AND MANAGEMENT**

**DATE: 05/02/2021**

**TIME: 8.00 A.M. – 10.00 A.M.**

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**INSTRUCTIONS**

**ANSWER QUESTIONS ONE AND ANY OTHER TWO.**

### QUESTION ONE [COMPULSORY] (30 MARKS)

- a) State and explain any three network administration categories as per ISO (6 marks)
- b) Define network service (2 marks)
- c) What are the duties of a network administrator (5 marks)
- d) Network management protocols are responsible for ensuring communication between network resources that are increasingly heterogeneous, state any two network management protocols apart from SNMP network management protocol. (3 marks)
- e) State and explain elements that make up SNMP-based network management architecture (8 marks)
- f) Explain the following tasks as related to network security (6 marks)
  - i) Security plan
  - ii) Security policy
  - iii) Security analysis

### QUESTION TWO (20 MARKS)

- a) Highlight any four messages exchanged between a DHCP server and client during allocation of IP addresses (8 Marks)
- b) Differentiate between two types DNS Query (6 Marks)
- c) State and explain any three tools used to monitor a network (6 Marks)

### QUESTION THREE (20 MARKS)

- a) Differentiate between maintenance and troubleshooting are related to network management (4 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) 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) Discuss the following network performance metrics (6 Marks)
  - i) Throughput
  - ii) Round Trip Time (RTT):
  - iii) Packet Loss:
- c) Explain the importance of Telecommunication Network management (TMN) management architecture (8 Marks)

**QUESTION FIVE (20 MARKS)**

- a) Explain how Ethical and Legal aspects come in when doing network administration (5 Marks)
- b) State and explain any four devices that can be monitored on a network (8 Marks)
- c) State reasons why a network administrator will prefer using DHCP to assign IP address to clients (6 Marks)
- d) What is the work of NAT (1 Marks)