

MACHAKOS UNIVERSITY
SCHOOL OF ENGINEERING
COMPUTING AND INFORMATION TECHNOLOGY DEPARTMENT
SUPPLIMENTARY EXAM
SCO401: NETWORK MANAGEMENT

Time: 2 hours

Instructions:

Answer **question one** and **any other two**

Question 1: (*compulsory*)

- a). You have been employed as an ICT personnel in an organization and deployed to the Network section as a manager. Discuss your three key roles. (6mks)
- b). Explain the importance of monitoring network performance (10mks)
- c). Given the following command. Analyze four aspects revealed by the output (4mks)

```
C:\>TRACERT GMAIL.COM

Tracing route to GMAIL.COM [216.58.223.69]
over a maximum of 30 hops:

  0  <1 ms    <1 ms    <1 ms    192.168.20.3
  1  <1 ms     1 ms     <1 ms    197.136.134.1
  2  3 ms      3 ms      3 ms     sl-df-ph-macha.n.kenet.or.ke [41.204.179.198]
  3  9 ms      9 ms      9 ms     kl.seacom-cls-02.s.kenet.or.ke [41.204.184.114]
  4  11 ms     20 ms     13 ms    72.14.220.40
  5  9 ms      9 ms      12 ms    108.170.229.78
  6  9 ms      9 ms      9 ms     72.14.239.179
  7  9 ms      9 ms      9 ms     mba01s07-in-f5.1e100.net [216.58.223.69]

Trace complete.
```

- d). Differentiate between a workstation and a server. (2mks)
- e). Discuss step by step process of setting up a network operation center and the equipment involved. (8mks)

Question 2:

- a). Discuss four SNMP security/Administration features. (8mks)
- b). Discuss the Hierarchical network management architecture. (12mks)

Question 3:

- a). Explain **five** Management Protocol features (10mks)
- b). In order to ensure security of a network system, enumerate five measures you would have in place as a network manager. (5mks)
- c). Describe **five** syslog severity levels (5mks)

Question 4

- a). Explain the following in regard to service applications and protocols
 - i. HTTP
 - ii. FTP
 - iii. POP3
 - iv. IMAP
 - v. DNS
 - vi. NFS
 - vii. LDP
 - viii. DHCP
 - ix. Telnet
 - x. SNMP(10mks)
- b). Differentiate between anonymous and non-anonymous FTP (2 mks)
- c). Discuss the three network management architectures, citing their application in the industry (8mks)

Question 5

- a). List five factors to be considered by network manager while choosing the type of Network Operating system to use in a network server. (5mks)
- b). List five popular versions of Linux operating system. (5mks)
- c). Enumerate five different types of servers (5mks)
- d). Discuss the process of setting up a network management tool and the parameters managed by the same software. (5mks)