



# MACHAKOS UNIVERSITY

University Examinations for 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FOURTH YEAR SPECIAL/SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

SCO 401: NETWORK MANAGEMENT

DATE:

TIME:

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## INSTRUCTIONS:

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

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

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

```
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. (2 marks)
- e) Discuss step by step process of setting up a network operation center and the equipment involved. (8 marks)

### **QUESTION TWO (20 MARKS)**

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

### **QUESTION THREE (20 MARKS)**

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

### **QUESTION FOUR (20 MARKS)**

- 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(10 marks)
- b) Differentiate between anonymous and non-anonymous FTP (2 marks)
- c) Discuss the three network management architectures, citing their application in the industry (8 marks)

### **QUESTION FIVE (20 MARKS)**

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