



MACHAKOS UNIVERSITY

University Examinations for 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

SCO 401: NETWORK MANAGEMENT

DATE: 2/5/2019

TIME: 8.30-10.30 AM

INSTRUCTIONS

Answer **question ONE** and any other **TWO** questions.

QUESTION ONE (30 MARKS) (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. (6 marks)
- b) Explain the importance of monitoring network performance (10 marks)
- c) Given the following ping command. Analyze four aspects revealed by the output

```
C:\>ping google.com
```

```
Pinging google.com [216.58.223.78] with 32 bytes of data:  
Reply from 216.58.223.78: bytes=32 time=23ms TTL=57  
Reply from 216.58.223.78: bytes=32 time=31ms TTL=57  
Reply from 216.58.223.78: bytes=32 time=28ms TTL=57  
Reply from 216.58.223.78: bytes=32 time=58ms TTL=57
```

(4 marks)

- 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) 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)

QUESTION THREE (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 FOUR (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 FIVE (20 MARKS)

- a) There are several ways of managing a network. Discuss four SNMP security/Administration features. (8 marks)
- b) With the aid of a diagram, Discuss the Hierarchical network management architecture and its application in the current world. (12 marks)