



MACHAKOS UNIVERSITY

University Examinations for 2020/2021

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

THIRD YEAR FIRST SEMESTER EXAMINATION FOR
BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

SIT 303: SYSTEM ADMINISTRATION

DATE: 9/8/2021

TIME: 2:00 – 4:00 PM

INSTRUCTION

Answer question **ONE** and other **Two** among the four selective questions

QUESTION ONE (COMPULSORY-30 MARKS)

- a) Define the following terms as used in server administration (10 marks)
 - i) A tree
 - ii) Proxy server
 - iii) RAID
 - iv) Group Policy Objects
 - v) Domains
- b) Explain three challenges of system administration (6 marks)
- c) A fault occurred in a computer due to a full hard disk. Troubleshoot this problem using a cause tree. (6 marks)
- d) The network administrator of Machakos University has noticed that there are rising cases of network attacks. Describe four steps he would take to secure the network (8 marks)

QUESTION TWO (20 MARKS)

- a) A student would like to check TCP/IP configurations; describe two common commands the student is likely to use. (6 marks)
- b) A company B has 1500 employees, 15 departments and 30 user roles. The company had been experiencing problems with user management. As a system administrator consultant, discuss five solutions that you will provide to the company. (10 marks)
- c) List four components of Human computer systems (4 marks)

QUESTION THREE (20 MARKS)

- a) You have been contracted as a web server manager in company A. Outline six procedures that will guide your task (6 marks)
- b) Describe any two key skills of a System Administrator (6 marks)
- c) Explain the following commands as used in Unix (8 marks)
- i) /etc.
 - ii) /dev and /devices
 - iii) /export
 - iv) /sbin

QUESTION FOUR (20 MARKS)

- a) During the installation of an operating system, the System Administrator is given the option of creating a number of partitions on a hard disk drive.
- i) Explain what happens when a hard disk drive is partitioned (2 marks)
 - ii) State the benefit of disk partitioning to an organisation (1 mark)
- b) Discuss the different types of active directories in a window server (6 marks)
- c) As a system administrator, you have noticed some issues with network performance.
- i) Explain the importance of monitoring network performance (2 marks)
 - ii) Discuss three performance issues of concern of a network (6 marks)
 - iii) List three ways of dealing with the issues in (ii) above (3 marks)

QUESTION FIVE (20 MARKS)

- a) As a system manager of company D, you have implemented changes to the current computer system and are responsible for organising a training program for the office staff where the day has been set aside. The office staff consist of three administrative and four marketing. They need to be properly trained to use the system efficiently and effectively. Changes to the system have meant all office staff will have to:
- learn the new login and back-up procedures
 - save their data to the file server, instead of saving to their individual PC hard disk
 - become familiar with the upgraded operating system
 - become familiar with the upgraded application software.
- i) Explain how the company could overcome user resistance to the proposed changes (3 marks)
 - ii) Describe the type of training program that would be suitable for the office staff (3 marks)
 - iii) Apart from training, how could the company ensure that the implementation of the changes causes minimal disruption to the daily job tasks (3 marks)
 - iv) List two reasons that could have necessitated changes to the current system (2 marks)
- b)
- i) Define VMWare (1 mark)
 - ii) Explain any four components of VMWare (8 marks)