



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)
University Examinations for 2015/2016 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FIRST SEMESTER EXAMINATION FOR DEGREE IN BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

SIT 303: SYSTEMS ADMINISTRATION

Date: 5/8/2016

Time: 8:30-10:30 AM

INSTRUCTIONS

*This paper consists of FIVE questions
Answer question ONE and other TWO questions in this paper.*

QUESTION ONE

- (a) (i) Who is a system administrator? (2 marks)
- (ii) Explain **four** fields related to system administration. (6 marks)
- (b) (i) Distinguish between *disk clean up* and *disk formatting* as used in system administration. (4 marks)
- (ii) A student observed that an iCore 5 computer had become unusually slow. Explain **four** possible causes of this observation. (6 marks)
- (c) (i) Outline **two** challenges of teaching system administration as a formal university unit. (2 marks)

- (ii) A newly chartered University would like to employ a system administrator. Outline **four** skills that they would be looking for in the potential employee. (4 marks)
- (d) Explain the function of each of the following system administrative tools: (6 marks)
 - (i) Local Security Policy;
 - (ii) Print Management;
 - (iii) Resource Monitor.

QUESTION TWO

- (a) (i) James, a system administrator would like to change computer default boot disk. Identify the most appropriate tool he may use for this task. (2 marks)
- (ii) Distinguish between *Windows PowerShell* and *Windows Memory Diagnostic* tools as used in system administration. (4 marks)
- (b) Describe **three** types of user accounts that may be created in a computer. (6 marks)
- (c) (i) Explain the term *filesystem*. (2 marks)
- (ii) System Administrator wishes to select a filesystem to use. Describe **three** aspects that he may consider. (6 marks)

QUESTION THREE

- (a) (i) Outline **three** file utilities used in system administration. (3 marks)
- (ii) Jacky, a system administrator decided to restrict access to a computer file. Explain **three** reasons that could have led to this decision. (6 marks)
- (b) (i) Security of computer facilities is key in system administration. Explain **two** actions that a malicious person can perform on a system. (4 marks)
- (ii) Explain each of the following terms as used in data security:
 - I. Confidentiality;
 - II. Integrity. (4 marks)
- (c) Compare *disk filesystems* with *tape filesystems*. (3 marks)

QUESTION FOUR

- (a) Explain the working of filesystems in each of the following operating systems. (6 marks)
 - (i) Unix;
 - (ii) Solaris;
 - (iii) OS X.
- (b) A student converted an existing filesystem to a new one. Explain **two** ways he could have achieved this. (4 marks)
- (c) Joan, a system administrator created user accounts for employees in an organization. Explain the user settings she could apply. (6 marks)
- (d) Computer user accounts are frequently managed. Explain **two** activities that may be carried out during this exercise. (4 marks)

QUESTION FIVE

- (a) Describe each of the following options in the Computer Management Console: (4 marks)
 - (i) Users;
 - (ii) Group.
- (b) Describe **two** approaches that may be used to run multiple file systems within a single system. (6 marks)
- (c) Distinguish between *data masking* and *data encryption* as used in data security. (4 marks)
- (d) (i) You are a Consumer Support Technician assisting a customer with configuring UAC features in Windows Vista. The customer would like to run using a minimal set of permissions but would like to be able to perform privilege escalation without providing credentials. Which of the following settings should you recommend? (2 marks)
 - A. An Administrator user account with Admin Approval Mode enabled
 - B. An Administrator user account with Admin Approval Mode disabled
 - C. A standard user account with the behavior of the elevation prompt set to Prompt for Credentials
 - D. A standard user account with the behavior of the elevation prompt set to Automatically Deny Elevation Requests
- (ii) A user has called you complaining that he has send a document for printing but no print out was produced. The printer is in good working condition, has paper and ink. Outline two possible causes of the problem. (4 marks)