



KAIMOSI FRIENDS UNIVERSITY
THIRD YEAR SECOND SEMESTER UNIVERSITY
EXAMINATIONS
2025/2026 ACADEMIC YEAR

SPECIAL EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIDENCE IN INFORMATION TECHNOLOGY

COURSE TITLE: SYSTEM ADMINISTRATION AND MANAGEMENT

COURSE CODE: BIT 322

DATE: 19/6/2026

TIME: 12-2PM

INSTRUCTIONS TO STUDENTS

1. **ANSWER QUESTION ONE AND ANY OTHER TWO FROM THE CHOICES GIVEN.**
2. **PHONES, SMART WATCHES, EAR PHONES OR ANY OTHER UNAUTHORIZED DIGITAL AND AI GADGETS AND APPLICATIONS ARE NOT ALLOWED IN THE EXAMINATION ROOM.**
3. **ANSWER ALL QUESTIONS IN THE EXAM ANSWER BOOKLET PROVIDED.**
4. **DO NOT WRITE ON THIS QUESTION PAPER.**
5. **ALL KAFU EXAMINATION RULES AND REGULATIONS APPLY.**
6. **DURATION OF EXAMINATION: TWO (2) HOURS**

KAFU observes ZERO tolerance to examination cheating.



Kaimosi Friends University (KAFU) is 9001:2015 certified

SECTION A**QUESTION ONE (30 MARKS) – COMPULSORY**

- a) Explain the any three roles of a systems administrator in an enterprise environment. [3 marks]
- b) Briefly describe any three types of patch management [6 marks]
- c) Explain the concept of directory services and centralized authentication. [3 marks]
- d) Discuss any four features of Group Policy in Windows Server. [4 marks]
- e) Explain the purpose of system documentation and its role in effective system support [4 marks]
- f) Differentiate between server operating systems and client operating systems, giving two examples of each. [4 marks]
- g) Describe four types of Redundant Array of Independent Disks, RAID configurations supported in Windows Server. [4 marks]
- h) State the functions of the following administrative tools in Windows:
 - i) Performance Monitor [1 mark]
 - ii) System Configuration [1 mark]

SECTION B (ANY TWO QUESTIONS)**QUESTION TWO (20 MARKS)**

- a) Discuss any three factors that affect server performance. [6 marks]
- b) Recommend hardware and software solutions to improve performance. [8 marks]
- c) Explain how automation and job scheduling improve administrative efficiency. [6 marks]

QUESTION THREE (20 MARKS)

- a) Outline the steps involved in installing and configuring a windows server operating system. [8 marks].
- b) Discuss any four potential network problems caused by Domain Name System, DNS misconfiguration and suggest corrective measures. [8 marks]

QUESTION FOUR (20 MARKS)

- a) Discuss the role of Redundant Array of Independent Disks, RAID in improving data availability and performance. [8 marks]
- b) A university data center currently runs five separate physical servers, each hosting one application and operating at only 20% CPU utilization. Using the concept of virtualization, explain how the university can redesign its infrastructure to improve resource efficiency. [6 marks]



- c) A software development company wants its engineers to run both Windows and Linux operating systems on their laptops for testing purposes. Recommend whether a Type 1 or Type 2 hypervisor would be more appropriate in this case. [6 marks]

QUESTION FIVE (20 MARKS)

A new organization is setting up its IT infrastructure.

- a) Design a suitable system administration structure for the organization, indicating key administrative domains. [8 marks]
- b) Recommend appropriate server roles required and justify each choice. [6 marks]
- c) Propose policies for managing users and groups securely. [6 marks]

