



MURANG'A UNIVERSITY OF TECHNOLOGY
SCHOOL OF COMPUTING AND INFORMATION
TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

UNIVERSITY ORDINARY EXAMINATION

2024/2025 ACADEMIC YEAR

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

SIT 404: CLIENT SERVER SYSTEMS

DURATION: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1. Answer question ONE and any other two questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

SECTION A – ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)

- a) Explain the meaning of the following terms as used in client server systems.
- i. Fat Server model
 - ii. Stateless server
 - iii. Middleware
 - iv. Groupware. (4 marks)
- b) Most current generation client /server systems are built upon some basic principles to ensure that they interact properly. Describe five basic principles which the components of client/ server architecture must conform to. (5 marks)
- c) Business enterprises and other organization are preferring client/server database computing to other types of database computing. Explain four reasons why client/server popularity has risen overtime. (4 marks)
- d) Describe the function of the client system citing the main operation of the client and the server. (4 marks)
- e) Computing in client server architecture has certain advantages and disadvantages. Discuss two advantages and two disadvantages. (4 marks)
- f) The clients and servers are the logical entities that work together over a network to accomplish a task. Explain five characteristics of client and the server. (5 marks)
- g) With aid of diagrams explain at least two topological designs of client server connectivity within a network. (4 marks)

SECTION B– ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

- a) While signals pipes and names are ways by which processes can communicate. The more refined methods of inter process communication are message queues, semaphores and shared memory. Describe four types of mechanism involved for such a communication. (8 marks)
- b) With the help of suitable diagram describe three tier architecture. (6 marks)

- c) A Transaction processing monitor is a program that controls data transfer between client and server in order to provide consistent environment particularly for online transaction processing (OLTP). Explain Four advantages of TP monitors and Two disadvantages of OLTP (6 mark)

QUESTION THREE (20 MARKS)

- a) “With the internet the traditional business model is no longer valid.” Describe the traditional business model and how the new business models differ. Do you agree with the statement in or do you disagree? Support your argument with examples. (10 marks)
- b) The enabling technologies for client/Server computing have evolved over time. Explain FIVE technologies which make it possible to create different kinds of client/server application. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Client/Server development tools are finally delivering of promises made initially, but there is a lot of room for improvement. Explain some areas where the tools can be made to perform better. (4 marks)
- b) Compare and contrast the system administrator training, database administrator training and end user training. (6 marks)
- c) There are various types of classifying client/server application depending on the database application. With aid of diagrams explain the four classes of client/server application processing. (10 marks)