MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

UNIVERSITY ORDINARY EXAMINATION

2018/2019 ACADEMIC YEAR

FOUR YEAR **FIRST** SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE IN COMPUTER 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) State and explain the three components that are essential in client server architecture. (3 marks)

b) The clients and the servers are the logical entities that work together over a network to a complish a task. Explain five characteristics of client /server systems . (5 marks)

c) Describe the various ways of reducing network traffic of client server computing. (6 marks)

d) Explain the following terms in relation to client–server computing: (4 marks)
   i. Client
   ii. DHCP
   iii. Remote procedure call
   iv. Dynamic data exchange

e) In the three-tier client–server system the client requests are handed by intermediate servers which coordinate the execution of the client requests with subordinate servers. With the aid of suitable diagram describie the three – tier architecture. (6 marks)

f) In the modern world most enterprises and organizations are shifting towards the client – server computing for assurance of returns in the technological investments
   i. Explain four advantages of client server computing (4 marks)
   ii. Give two reasons why an enterprise would find it difficult to shift to client – server computing (2 marks)

SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

a) The components of the client-server architecture must conform to some basic principles if they are to interact properly. These principles must be applicable to client server and to communication middle wave components. Explain these principles. (10 marks)

b) Client server applications can be distiquished by the nature of the service or type of solution they provide . Explain five most common types of soltion that are offerd by the client- drever applications (5 marks)

c) Explain the term transaction processing monitors and list any three advantages that are associated with them (5 marks)

QUESTION THREE (20 MARKS)

a) Interaction between client and server is in the form of transactions in which client makes database request and receive a database response. In the architecture of such a system server is responsible for maintaingin the database, for that purpose a complex database management system module is required. With aid of well lebelled diagrams describe the three client server database architecture available today. (5 marks)

b) The enabling technology for client - server computing have evolved over time. Explain Five technologies that make it possible to create different kinds of client-server applications. (5 marks)

c) Identify and discuss three types of service providers that have arisen in the recent decades giving an example in each case. (6 marks)

QUESTION FOUR (20 MARKS)

a) There are various types of characterizing client / server application depending on the database applications. With the aid of diagrams explain the following four classes of client/server application processing (8 marks)
   i. Host- based processing
   ii. Server – based processing
   iii. Client - based processing
   iv. Cooperative processing

b) Explain about network management and remote system management and discuss four ways of providing security in a network. (8 marks)

c) Discusss about the role of traditional and web databases in handling client/ server based applications. (4 marks)