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**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

UNIVERSITY EXAMINATIONS

MAIN CAMPUS

2022/2023 ACADEMIC YEAR

SECOND YEAR EXAMINATIONS

**FOR THE DEGREE
OF**

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

COURSE CODE: BCS 226

COURSE TITLE: CLIENT SERVER ARCHITECTURE

DATE: 11/04/2023

TIME: 12:00-2:00PM

INSTRUCTIONS TO CANDIDATES

Answer questions ONE and any other TWO questions.

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over. ►

QUESTION ONE (30 MARKS) COMPULSORY

- a) Explain your understanding of SMP [4 Mks]
- b) What is ACID property in client server environment [4 Mks]
- c) List the key items one needs to have for a client server [3 Mks]
- d) Justify briefly why mission critical systems have tended to remain on the mainframe [5 Mks]
- e) Briefly discuss any 3 base services offered by OS in the client server environment [6 Mks]
- f) Give 3 characteristics of open database connectivity standard (ODBC) [3 Mks]
- g) What encompasses Client/server security [3 Mks]
- h) What is your understanding of an application program interface (API) [2 Mks]

QUESTION TWO (20 MARKS)

- a) Write brief notes on 3 tier, 2 tier and N tier client server architectures [10 Mks]
- b) Highlight and discuss the five factors that make up the differences between mainframe and client / server systems [10 Mks]

QUESTION THREE (20 MARKS)

- a) Briefly do a write up of how Information is Exchanged between a User and a Web-based Database [12 Mks]
- b) Discuss the forces that drive Client/Server Computing [8 Mks]

QUESTION FOUR (20 MARKS)

- a) Client/Server development tools are finally delivering on promises; Discuss any five where these tools can be made to perform better [10 Mks]
- b) What are the trends in computer usage that aid client / server computing [3Mks]
- c) Discuss the role of web browser for providing web service in Client/Server environment. [3Mks]
- d) Why is testing Client/Server applications more challenging than testing traditional systems [4Mks]

QUESTION FIVE (20 MARKS)

- a) Basic server types include Iterative connectionless; Iterative Connection -oriented; Concurrent Connectionless and Concurrent Connection-oriented, discuss the above. [8 Mks]
- b) Enumerate the benefits of a Transaction Processing Monitor. [5Mks]
- c) Describe the disadvantages of client server computing [7 MKs]