(*Knowledge for Development*)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

SPECIAL /SUPPLEMENTARY EXAMINATIONS
YEAR TWO SEMESTER TWO EXAMINATIONS

FOR THE DEGREE OF
BACHELOR OF COMPUTER SCIENCE

COURSE CODE   :   CSC 226
COURSE TITLE   :   CLIENT-SERVER
COMPUTING

DATE: 26/07/2022   TIME: 08.00 A.M – 10.00 A.M

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSORY) [30 MARKS]

a) Define distributed computing   [1 mark]

b) Differentiate between Common Object Request   Broker Architecture (CORBA) and Component Object   Model/Distributed   Component Object   Model (COM/DCOM). distributed object technologies.   [2 marks]

c) Discuss five (5) key functions of the client in the client/server architecture.

                                                                            [5 marks]

d) Explain each of the following factors that differentiate between mainframe and client/server computing?

    i.   Application development   [2 marks]

    ii.   Data manipulation   [2 marks]

    iii. System management   [2 marks]

    iv. Security   [2 marks]

    v.   End user platform   [2 marks]

e) 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). Identify and explain any four advantages associated with TP monitors.

                                                                            [4 marks]

f) Describe the misconception created by the client/server technology.   [4 marks]

g) How do you make an image clickable in HTML? Give an example.   [4 marks]

QUESTION TWO [20 MARKS]

a) Define URI. **[2 marks]**

b) Identify the factors that differentiate JavaScript from Java platforms. **[4 marks]**

c) Discuss the following application level protocols of the TCP/IP model.

    i.   DNS **[2 marks]**

    ii.   HTTP **[2 marks]**

    iii. SMTP **[3 marks]**

    iv. Telnet **[2 marks]**

d) Differentiate between POST and GET message types as used in HTTP protocol.

[6 marks]

    i.   GET

    ii.   POST

QUESTION THREE [20 MARKS]

a) What are Cascading Style Sheets (CSS)? **[3 marks]**

b) Discuss the following basic types of web documents.

    i.   Static **[3 marks]**

    ii.   Dynamic **[3 marks]**

    iii. Active **[3 marks]**

c) Explain why database driven websites are commonly used in the development of web applications today. **[4 marks]**

d) Discuss any four tag's which are placed inside the <head> tag of a HTML document. **[4 marks]**

QUESTION FOUR [20 MARKS]

a) What is a Servlet?   [2 marks]

b) As a web developer write the HTML code that will output the table below: [6 marks]

TEMPERATURE				
CITIES	DELHI	MUMBAI	KOLKATTA	CHENNAI
MAXIMUM	21	35	43	50
MINIMUM	5	14	28	32

c) The web comprises of different implementation platforms such as Servlets and CGI. Explain why a web developer would prefer the use Servlets over CGI programs?   [8 marks]

d) Explain the four types of access modifiers.   [4 marks]

QUESTION FIVE [20 Marks]

a) Identify the benefits of Stateful servers in a client server environment. [5 marks]

b) Using examples explain how Data integrity, Interoperability and Scalability helps to improve the functionality of client server modular architecture.   [9 marks]

c) Explain why Client/Server architecture could be termed as a 2-tier architecture and not a 3-tier architecture?   [6 marks]