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KIRIRI WOMEN'S UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2023/2024 ACADEMIC YEAR
END SEMESTER EXAMINATION
FOR THE BACHELOR OF SCIENCE IN COMPUTER SCIENCE
KCS 403 – ADVANCED COMPUTER NETWORKS
SPECIAL

Date: 16TH AUGUST 2023
Time: 2:30PM – 4:30PM

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

- a) Differentiate between a computer network and computer networking. (4 Marks)
- b) Describe the properties of data commutation properties. (5 Marks)
- c) List the specific characteristics of routing protocols. (5 Marks)
- d) Explain the Wide Area Network in the context of networking. (6 Marks)
- e) Explain the client-server model with the help of an illustration (10 Marks)

QUESTION TWO (20 MARKS)

- a) Describe three Quality of service parameters which have to be addressed in Asynchronous Transfer Mode prior to path set up. (3 Marks)
- b) Explain the importance of sub-netting (3 Marks)
- c) Describe two data transfer modes of HDLC (4 Marks)
- d) Describe the TCP/IP protocol architecture. (10 Marks)

QUESTION THREE (20 MARKS)

- a) Describe frame relay technology. (6 Marks)
- b) Explain the difference between;
 - i) Static and dynamic routing (3 Marks)
 - ii) Virtual circuit and datagram. (3 Marks)
- c) With the aid of a diagram describe the fields of a High-Level Data Link Control (HL DLC) transmission frame. (8 Marks)

QUESTION FOUR (20 MARKS)

- a) What are the differences between WAN and LAN? (10 Marks)
- b) Discuss the different uses of default gateways. (10 Marks)

QUESTION FIVE (20 MARKS)

- a) Explain the functions of the layers in the OSI reference model. (10 Marks)

b) Describe the Peer to Peer Model network model.

(10 Marks)