



(Knowledge for Development)

KIBABII UNIVERSITY

(KIBU)

**UNIVERSITY EXAMINATIONS
2020/2021 ACADEMIC YEAR**

**SPECIAL/SUPPLEMENTARY EXAMINATIONS
YEAR FOUR SEMESTER II EXAMINATIONS**

**FOR THE DEGREE OF
BACHELOR OF SCIENCE
IN
COMPUTER SCIENCE**

COURSE CODE :CSC 475

**COURSE TITLE :ADVANCED WIRELESS & MOBILE
NETWORKS**

DATE: 12/02/2021 TIME: 11.00 A.M – 01.00 P.M

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS) - COMPULSORY

- a. Explain three uses of WLAN [3 marks]
- b. Describe five of the goals which have to be achieved while designing WLANs [10 marks]
- c. Briefly describe how a Satellite Works [3 marks]
- d. Middleware software [2 marks]
- e. Why use middleware? [2 marks]
- f. Cite any three Types of middleware [3 marks]
- g. What are network metrics? [2 marks]
- h. Network performance refers to measures of service quality of a network as seen by the customer. What are some of the measures often considered important in measuring network performance. [4 marks]
- i. Summarize the paradigm shift in computing in one paragraph.

QUESTION TWO (20 MARKS)

- a. State two advantages and two disadvantages of Satellite Communications [4 marks]
- b. i. Processes can communicate with each other using two ways: Name them. [2 marks]
ii. Explain the communication ways mentioned in 2b)i above [4 marks]
- c. Message Passing through Communication Link can either be Direct or Indirect. Differentiate the two. [4 marks]
- d. Explain the following terms as applied in Networking: [6 marks]
HTTP?, TCP/IP , DHCP

QUESTION THREE (20 MARKS)

- a. Define the following terms as applied to Wireless computing [4 marks]
- b. Outline the steps of creating a good system monitoring scheme [8 marks]
- c. Describe end-to-end principle of networking? [2 marks]
- d. What are the Benefits of E2E Testing [2 marks]
- e. State the 4 steps in the E2E Testing Lifecycle [4 marks]

QUESTION FOUR (20 MARKS)

- a. The usage of Bluetooth has widely increased because of its special features. Explain any three of these features. [6 marks]
- b. Differentiate between a thread and a process in wireless communication [2 marks]
- c. What is a radio access network (RAN)? [2 marks]
- d. RAN architecture is enhanced with the following nodes to achieve an optimal split:
 - Radio function (RF)
 - Radio processing function (RPF)
 - Packet processing function (PPF)
 - Radio control function (RCF)Briefly Explain each one of them [8 marks]
- e. Define inter-process communication (IPC) [2 marks]

QUESTION FIVE (20 MARKS)

- a. What does QoS metrics refer to? [2 marks]
- b. Explain four Issues that affect the Quality of service in Multimedia Applications. [4 marks]
- c. Does QoS slow down the internet? Explain. [4 marks]
- d. Briefly describe 5 main QoS parameters often used [10 marks]