[Knowledge for Development]

# KIBABII UNIVERSITY

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## UNIVERSITY EXAMINATIONS
## 2022/2023 ACADEMIC YEAR

## END OF SEMESTER EXAMINATIONS
## YEAR THREE SEMESTER TWO EXAMINATIONS

## FOR THE DEGREE IN
## COMPUTER SCIENCE

**COURSE CODE : CSC 314**

**COURSE TITLE : MOBILE COMPUTING**

**DATE: 13 / 12 / 2022** **TIME: 9:00 A.M – 11:00 A.M.**

**INSTRUCTIONS TO CANDIDATES**

**ANSWER QUESTIONS ONE AND ANY OTHER TWO.**

## QUESTION ONE (COMPULSORY) [30 MARKS]

a. Define: [1Mark]

   i. Mobile IP [1Mark]

   ii. Mobile computing [6Marks]

b. State and explain any three wireless security standards applied in WLANS

c. Differentiate between 3G and 4G technologies of data transmission as used in mobile computing [2Marks]

d. State and explain four advantages and four disadvantages of satellite transmission. [8Marks]

e. Describe any two techniques that may be used to determine the current network address of a mobile unit. [4Marks]

f. State and explain four problems of mobile computing [8Marks]

## QUESTION TWO [20 MARKS]

a. Explain any five Support services given by software packages to support mobile and wireless computing. [10marks]

b. Explain the following as used in android application development: [8Marks]

   i. Activities

   ii. Content providers

   iii. Intent and Intent Receiver

   iv. service

c. Write a sample text code in java that would display a save button [2Marks]

## QUESTION THREE [20 MARKS]

a. Define wireless application protocol and state its features. [10 Marks]

b. A satellite's job in the communications network is to serve as a repeater. Explain [2Marks]

c. Differentiate between GPS and GEOs satellites as used in mobile communications [6Marks]

d. Define Wireless computing [2Marks]

## QUESTION FOUR [20 MARKS]

a. Differentiate between: [8Marks]

   i. 802.11g and 802.11i standards

   ii. 802.1x and WPA

b. State and explain any five roles/functions of middleware [10Marks]

c. State any four application areas of WLANS [2Marks]

## QUESTION FIVE [20 MARKS]

a. Trunked mobile radio systems overcome many of the disadvantages associated with the operation of individual repeaters such as Community Repeaters. Discuss [10 Marks]

b. List and describe any two Mobile IP components [4Marks]

c. State any two types of satellites that operate at the MEO orbit. [2Marks]

d. Describe the two types of WLANS. [4Marks]