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[Knowledge for Development]

**KIBABII UNIVERSITY**

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**UNIVERSITY EXAMINATIONS  
2020/2021 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: 12/07/2021 TIME: 9:00 A.M – 11:00 A.M.**

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**INSTRUCTIONS TO CANDIDATES**

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

**QUESTION ONE [COMPULSORY] [30 MARKS]**

- a) What is Mobile Computing? Or What do you understand by Mobile Computing? [2marks]
- b) Describe the two modes of multiplexing used in mobile computing. [4marks]
- c) What are the two different types of mobility in Mobile Computing? [4marks]
- d) What information is stored on a SIM card? [6marks]
- c) Security threats can be divided into various categories. Explain any four [2marks]
- d) Describe any two techniques that may be used to determine the current network address of a mobile unit. [2marks]
- e) Define the term routing and explain the two ways in which routes can be learned by routers. [6marks]
- f) What do you understand by the term protocol? Give any two examples and there functions [4 marks]

**QUESTION TWO [20 MARKS]**

- a) What are the basic building blocks for Mobile Computing? [2marks]
- b) Define the following terms as used in networking: [8marks]
- i. Transmission media
  - ii. Guided Media
  - iii. Unguided Media
  - iv. Chanel capacity
- c) Explain the different advantages of Mobile Computing? [10marks]

**QUESTION THREE [20 MARKS]**

- a) Discuss Phase Lock Loop (PLL) in Mobile computing and its use. [4marks]
- b) Discuss the difference between borrowing channel allocation (BCA) and fixed channel allocation (FCA)? [4marks]
- c) State and explain the different components of the Mobile IP? [12marks]

**QUESTION FOUR [20 MARKS]**

- a) Briefly explain the OSI Model. [14marks]
- b) Describe the main disadvantages of Mobile Computing over adhoc computing? [6marks]

**QUESTION FIVE [20 MARKS]**

- a) Explain the GSM System Protocol Architecture. [10marks]
- b) Trunked mobile radio systems overcome many of the disadvantages associated with the operation of individual repeaters such as Community Repeaters. Discuss [10 Marks]