



NATIONAL OPEN UNIVERSITY OF NIGERIA

14/16, Ahmadu Bello Way, Victoria Island

SCHOOL OF SCIENCE AND TECHNOLOGY

October, 2013 Examination

Course Code: CIT 758

Course Title: WIRELESS COMMUNICATION II

INSTRUCTION: *Answer any five questions.*

Time: 3 HOURS

1(a) What is the meaning GSM.

(b) Outline and discuss the various generations involved in cellular wireless network.

(c) Considering the various generations of the cellular wireless network, explain under which generation is the Mobile Computing?

2 (a) Define the term Bluetooth Profile, enumerating at least ten profiles adopted by Bluetooth SIG.

(b) Outline and discuss any five Bluetooth Specifications.

(c) Discuss the operating principle of RFID, enumerating the various types of Readers and Tags.

3 (a) What is Modulation. State at least three types of modulation technique.

(b) Briefly explain the concept of diversity; enumerating at least three important roles it plays in telecommunication.

(c) Differentiate among these four multiple access techniques; FDMA, TDMA, CDMA and SDMA, clearly stating the advantage(s) of one over another.

4 (a) Explain the term Wi-fi.

(b) List and explain the basic components of a cellular system.

(c) Outline and discuss at least five significant challenges of RFID.

5 (a) What is a Satellite. Explain its principle of operation, stating at least five reasons why it is the most effective mode of communication.

(b) Outline and explain five essential factors considered in satellite communication, indicating the various services it is used for.

(c) Enumerate and discuss any three types of satellite orbit, stating at least two advantages and disadvantages each.

6 (a) Explain the IEEE 802.11 standard for WLAN implementation, indicating its various versions.

(b) Using a suitable diagram, explain when a BSS Basic Service Set, becomes an infrastructure.

(c) Using the IEEE 802.11 standard, explain the first two layers of the OSI Model.

7 (a) Explain the phenomenon Diffraction.

(b) Outline and explain the three (3) effects of electromagnetic wave propagation through the free space.

(c) Enumerate and discuss the various classes of wireless communication.