



TECHNICAL UNIVERISTRY OF MOMBASA

# Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

DIPLOMA INFORMATION COMMUNICATION TECHNOLOGY (DICT 14M/-EV)

**EIT 2203: WIRELESS TECHNOLOGY**

END OF SEMESTER EXAMINATION

**SERIES: APRIL 2015**

**TIME: 2 HOURS**

**Instructions to Candidates:**

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions.

Attempt question **ONE (Compulsory)** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

**Question One (Compulsory)**

- a) Wireless networks are becoming more preferred than the traditional wired LAN. Discuss. **(12 marks)**
- b) What features distinguish mobile computing systems from stationary computing systems **(5 marks)**
- c) Highlight the issues experienced in wireless networks **(3 marks)**

**Question Two**

- a) Wireless Networks have TWO modes of operation. Highlight and explain each mode. **(6 marks)**
- b) Differentiate between WMAN, WLAN and WPAN discussing their characteristics **(6 marks)**
- c) Discuss the concept of frequency Reuse. Illustrate when  $N = 4$  **(8 marks)**

**Question Three**

- a) Define Wi-Fi **(2 marks)**
- b) Wi-Fi is a half duplexed. Discuss **(4 marks)**
- c) Discuss the security techniques used in Wi-Fi **(6 marks)**
- d) Discuss the Architecture of IEEE 802.11 WLAN **(8 marks)**

**Question Four**

- a) Discuss the Media Access Techniques **(12 marks)**
- b) Describe Duplexing in wireless networks data transmission **(3 marks)**
- c) Differentiate between FDD and TDD **(5 marks)**

**Question Five**

- a) Briefly describe GSM and GPRS cellular networks **(6 marks)**
- b) Highlight error compensation mechanism in cellular networks **(8 marks)**
- c) Highlight THREE different types of fading **(6 marks)**