TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATIONS FOR DEGREE IN:
BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY (BTIT 13M 13S)

EIT 4402: MOBILE AND WIRELESS COMPUTING

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) Explain the following terms:
- **(i)** Wireless network
- **(ii)** Mobile computing
- **(iii)** Fading
- **(iv)** Mobile IP **(8 marks)**

b) What is duplexing? **(2 marks)**

c) Differentiate between TDD and FDD **(6 marks)**

d) Give FOUR areas of applications of wireless computing **(4 marks)**

e) Discuss the Media Access Techniques in Wireless Networks **(10 marks)**

Question Two

a) Using an illustration, describe the IEEE 302.11 Architecture. Discuss how the components function **(10 marks)**

b) Highlight the advantages that wireless networks have over the wired networks **(4 marks)**

c) Discuss the major issues with wireless networks **(6 marks)**

Question Three

Draw and discuss the functions of the main components of GSM network **(20 marks)**

Question Four

a) Explain 3 cell and 7 cell clustering for mobile wireless network as used in cellular systems **(10 marks)**

b) Compare and contrast between GSM and GPRS cellular network architecture **(6 marks)**

c) Discuss the topologies used in wireless networks **(4 marks)**

Question Five

a) Explain the following terms: **(8 marks)**

- **(i)** 1G telephone systems
- **(ii)** 2G phone systems
- **(iii)** 2.5G phone systems
- **(iv)** 3G phone systems

b) Highlight the milestones from one Generation of cellular systems to another **(12 marks)**