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**W1-2-60-1-6**

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

# **UNIVERSITY EXAMINATIONS 2014/2015**

SECONDYEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY

**BIT 2223 : MOBILE COMPUTING**

**DATE: APRIL 2015 TIME: 2 HOURS**

**INSTRUCTIONS:**

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**QUESTION ONE**

1. In the context of signal propagation, explain what is meant by signal attenuation and why it is important consideration in wireless communication . Explain what is meant by free space loss and how it depends on distance. [4 marks]
2. Describe the four categories of noise namely
3. Thermal noise
4. Impulse noise
5. Cross-talk
6. Inter-modulation noise [6 marks]
7. In the context of wireless signal propagation, describe multiple propagation and explain the problem that may arise from it particularly in the context of mobile communications. [4 marks]
8. Discuss how to solve the issues in cellular network organization. From such as capacity, power renewable , loss of site limitations [5 marks]
9. Discuss 4 advantages of forward error corrections [6 marks]
10. Discuss 3 hand off performance practices. [5 marks]

**QUESTION TWO**

1. Explain the difference between FDMA and TDMA [5 marks]
2. Discuss the architecture used operation of cellular wireless systems [5 marks]
3. In the context of mobile IP, distinguish between mobile terminal and a nomadic terminal [5 marks]
4. Three basic capabilities included in mobile IP protocols are discovery registration and formatting. Explain each. [5 marks]

**QUESTION THREE**

1. Explain four differences between first and second generation systems. [6 marks]
2. Use a diagram to explain steps in design of TDMA time slot [6 marks]
3. Explain four components in GSM network architecture [4 marks]
4. State four advantages of CDMA cellular. [4 marks]

**QUESTION FOUR**

1. Explain four draw backs of CMA cellular . [6 marks]
2. Explain four types of channels supported by f……….link. [6 marks]
3. Discuss limitations of a mobile environment for data services [6 marks]
4. Define blue tooth [2 marks]