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

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

# **UNIVERSITY EXAMINATIONS 2017/2018**

THIRD YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN HEALTH RECORDS, MANAGEMENT AND INFORMATICS

**BIT 2317 : FUNDAMENTALS OF COMPUTER SCIENCE**

**DATE: DECEMBER 2017 TIME: 2 HOURS**

**INSTRUCTIONS:**

**ANSWER ALL QUESTIONS IN SECTION A AND ANY OTHER QUESTION IN SECTION B**

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**SECTION A**

1. Describe the following terms as concerns information security [6 marks]
2. Attack
3. Threat
4. Vulnerability
5. Define an Information Security risk and explain the steps in information Risk Management [6 marks]
6. What is Access Control and describe the following standard access control models [16 marks]
7. Mandatory Access Control
8. Discretionary Access Control
9. Role based Access Control
10. Rule based Access Control
11. Define a Wireless Access Point and differentiate between Thin Access Point and Thick Access Point. [6 marks]
12. Compare WPA and WPA2 personal wireless security models [6 marks]
13. Explain MAC address in a computing component and describe how we can implement MAC address filtering in Wireless Network Security [6 marks]
14. (i)Describe VLAN in a computer network. [2 marks]

(ii)Describe how a VLAN can help to improve security in a computing network system [4 marks]

1. Define the following as concerns information security [6 marks]
2. Encryption
3. Decryption
4. Hashing

**SECTION B**

1. Describe how Ceasar Cipher works and compute the output of the phrase “Fundamentals of Computer Security”. [22 marks]
2. Define digital certificate and describe the different uses of a digital certificate [22 marks]
3. Describe what is an organizational business continuity and describe how we can plan redundancy on the following [22 marks]
4. Server
5. Storage
6. Network
7. Power
8. Sites