**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATION 2017/2018**

**YEAR 1 SEMESTER 1 EXAMINATION FFOR THE DEGREE OF BACHELOR OF SCIENCE IN**

**INNOVATION AND TECHNOLOGY MANAGEMENT**

**HEIT 2104: COMPUTER APPLICATION FOR INNOVATIONS**

**DATE: JANUARY 2018 TIME 2: HOURS**

**INSTRUCTION:** Answer questions one and any other two.

**Question one**

1. Define the following terms
2. Data
3. Technology
4. Communication
5. System (4 marks)
6. Outline the characteristics of the different programming languages
7. Machine code ( 3 marks)
8. Assembly language (3 marks)
9. High Level language or Problem oriented (3 marks)
10. Non procedural languages (3 marks)
11. Outline the features of the following types of computers
12. Microcomputers (2 marks)
13. Main frame computers (2 marks)
14. Elaborate on the concept of virtual memory indicating its advantages and disadvantages. (6 marks)
15. State any four characteristics of a system in the context of system theory (4 marks)

**Question two**

1. State the various number systems used in computers (2 marks )
2. Perform the following computations showing your work clearly
3. Convert the Decimal 113 to Binary (3 marks)
4. Convert the Binary 1000001 to Decimal (3 marks)
5. Convert Binary 101 to Octal (3 marks)
6. Convert Decimal 453 to Hexadecimal (3 marks)
7. Describe the various types of translators used in programming (6 marks)

**Question three**

1. Describe any three scheduling algorithms used in process management by operating systems (9marks)
2. Outline any four reasons why application software are useful in end user computing (6 marks)
3. State any six basic concepts of object oriented technologies (5 marks)

**Question four**

1. Explain any four factors that you would use to distinguish and make a decision whether to acquire off the shelf software or bespoke software (6marks)
2. Define the term protocol in the context of computer networks and outline ant three tasks that are facilitated by protocols in a network (6 marks)
3. Outline the operating principles of the following softwares
4. Optical character reader (2 marks)
5. Optical mouse (2 marks)
6. Laser printer (4 marks)

**Question five**

1. Outline any four factors that you could use to differentiate between LAN and WAN (4 marks)
2. Elaborate on the main features of the following softwares
3. Wordprocessors (4 marks)
4. Spreadsheets (4 marks)
5. Accounting (4 marks)
6. Explain the major uses of computer networks (4 marks)