JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

DEPARTMENT OF COMPUTER SCIENCE & SOFTWARE ENGINEERING

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE INFORMATION

SYSTEMS, ICT SECURITY AND COMPUTER FORENSICS

1ST YEAR SEMESTER 1ST 2018/2019 ACADEMIC YEAR

MAIN CAMPUS

COURSE CODE: IIT 3111

COURSE TITLE: INTRODUCTION TO COMPUTER SYSTEMS

EXAM VENUE: CAMPUS   **STREAM BIS/ICT/FORENSIC**

DATE: **EXAM SESSION:**

TIME:

INSTRUCTIONS

1. **Answer Question 1 (Compulsory) and ANY other TWO questions**
2. **Candidates are advised not to write on the question paper**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room**

QUESTION ONE (30 MARKS)

a) Identify three types of servers used in a network and their functions.   (6 Marks)

b) Explain two precautions that a student should take when using USB drives for saving important work.   (4 Marks)

c) Differentiate between a:

    i.   Hardware and a software

    ii. System Software and Application Software

    iii. Bit and a byte   (6 Marks)

d) Name the four components of a computer system   (4 Marks)

e) With examples, differentiate between high level and low level programming languages.

    (2 Marks)

f) Name the two types of translators used in software development.   (2 Marks)

g) Describe the input-process-output model   (4 Marks)

h) Name the components of a CPU.   (2 Marks)

QUESTION TWO (20 MARKS)

a) The main role of the CPU is to execute instructions. Explain the steps involved during the execution of an instruction.   (8 Marks)

b) What is a system bus?   (2 Marks)

c) How many bytes are in a:

    i.   Kb (kilobyte)

    ii. Mb (megabyte)

    iii. Gb (gigabyte)

    iv. Tb (terabyte)   (4 Marks)

d) Outline the functions of an operating system   (2 Marks)

e) Explain the following DOS Commands: (4 Marks)

    i.   CHKDSK

    ii. DIR

    iii. XCOPY

    iv. ATTRIB

QUESTION THREE (20 MARKS)

a) What is a computer network? (2 Marks)

b) Explain the term Data transfer rate in computer networks. (2 marks)

c) Differentiate between a file server and a web server (4 Marks)

d) Explain the five different types of networks (10 Marks)

e) Differentiate between Internet backbone and Internet service provider (2 Marks)

QUESTION FOUR (20 MARKS)

a) The International Organization for Standardization (ISO) established the Open Systems Interconnection (OSI) Reference Model. Each layer deals with a particular aspect of network communication. Explain each of the layers of the OSI model. (14 Marks)

b) What is a protocol stack? (2 Marks)

c) Name four types of protocols found in a protocol stack. (4 Marks)

QUESTION FIVE (20 MARKS)

(a) As a computer lab technician in an organization, note down any ten safety precautions and practices to be respected in the information systems department to avoid accidents and to enhance smooth running of computers. (5 Marks)

(b) What is MIME? (2 Marks)

(c) Define the term computer and discuss any of its three positive and negative effects in the society. (8 Marks)

(d) Define the term Virus in the context of computers and describe any THREE examples of Viruses (5 Marks)