**Name: …………………………………………………………… Index no ……..…...................................**

**School: …………………………………………………….....…. Candidate’s sign ………….…………....**

**Date: ……………………………………………….……………**

**451/1**

**COMPUTER STUDIES**

**PAPER 1**

 **(THEORY)**

**TIME: 2 ½ HOURS.**

**MACHAKOS COUNTY KCSE TRIAL AND PRACTICE EXAM 2015**

***Kenya Certificate of Secondary Education (K.C.S.E.)***

**451/1**

**COMPUTER STUDIES**

**PAPER 1**

**(THEORY**

**INSTRUCTION TO CANDIDATES**

* Write your name and index number and school in the spaces provided above
* *This paper consists of* ***Two*** *sections* ***A*** *and* ***B****.*
* *Answer* ***ALL*** *questions in section* ***A****.*
* *Answer question 16(compulsory) and any other* ***THREE*** *questions from section* ***B.***
* *All answers should be written in the spaces provided on the question paper*
* *This paper consists of 9 printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing*

**FOR OFFICIAL USE ONLY**

|  |  |  |
| --- | --- | --- |
| **SECTION** | **QUESTIONS** | **CANDIDATES SCORE** |
| **A** | 1-15 |  |
| **B** | 16 |  |
| 17 |  |
| 18 |  |
| 19 |  |
| 20 |  |
| **TOTAL SCORE** |  |

*A special Performance Improvement Project*

*By His Excellency Dr. Alfred Mutua*

 *Sponsored by the County Government of Machakos*

1. Describe the following terms as used in Microsoft Word.

 (a) Text wrapping (1mark)

 ………………………………………………………………………………………………..……………………………………………………………………………………………………………………………

 (b) Column breaks (1 mark)

 …………………………………………………………………………………………………………..…………………………………………………………………………………………………………………

2. (a) What is a blog in relation to internet services (2marks)

 ……………………………………………………………….…………………..…………………………………………………………………………………………………………………………………………

 ……………………………………………………………….…………………….………….……………………………………………………………………………………………………………………………

 (b) Explain the impact of internet in the information security (2marks)

 ……………………………………………………………….…………………..……….…………………………………………………………………………………………………………………………………

 ……………………………………………………………….…………………..………….………………………………………………………………………………………………………………………………

3. Distinguish between software installation and software configuration in relation to operating system (2marks)

 ……………………………………………………………….………………..………………………………………………………………………………………………………………………………………………………………..……………………………………………………………….…………………………………………………………………………………………………………………………………………

4. The following is information about a computer file.

A

B

C

 C:/Machakoscounty\exam.doc

 (a) Identify the parts labeled: (3marks)

 A

 …………………………………………………………….…………………..……………………………………………………………………………………………………………………………………………

 B

 ……………………………………………………………….……………………..………………………………………………………………………………………………………………………………………

 C

 ……………………………………………………………….………………………..…………………………………………………………………………………………………………………………………… (b) State one function of the part labeled C (1mark)

 ……………………………………………………………….…………………………..…………………………………………………………………………………………………………………………………

 (c) Give the name of the storage device where this computer file is stored. (1mark)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

5. Describe two application areas of virtual reality. (2marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

6. List down two softcopy output devices. (2marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

7. Most computerized security systems make use of Biometric analysis, name three physical features of human beings that can be considered in this analysis. (3marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 ………………………………………………………………………………………………………………

8. List three sources of viruses. (3marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 ………………………………………………………………………………………………………………

9. Briefly explain any two types of errors that can be encountered during program testing (2marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

10. Differentiate between a transaction file and a master file. (2marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

11. List two disadvantages of fiber optic cable. (2marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………...………………………………………………………………………………………………………………………………

12. a) What is a template? (2marks)

 ……………………………………………………………….……………………………..……….………………………………………………………………………………………………………………………

 b) State two purpose of a template. (2marks)

 ………………………………………………….…………….……………………………..………………………………………………………………………………………………………………………………

13. List four ways in which data integrity can be compromised. (4marks)

 ……………………………………………………………….……………………………..…………………………………………………………………………………………………………………………………………………………………………………….………….……………………………..………………………………………………………………………………………………………………………………

14. Why octal and hexadecimal are preferred to binary (1mark)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

15. Differentiate between the terms signal Attenuation and Noise as used in data communication.

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

SECTION B

*Answer question 16 and any other three questions in this section*

16. a) State three advantages of low -level languages (3marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………

 b) Give two differences between a compiler and an interpreter. (2marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 c) i) Draw a program flow chart to give out the sum and average of the first 50 odd numbers in the

 series: 1, 3, 5... (5marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 ii) Write a pseudo to give out the sum and average of the first 50 odd numbers in the series:

 1, 3, 5… (5 marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

17. Use two complement to perform the following arithmetic operations

 i) 1510 -1210 (4marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 ……………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 ii) 101112- 10112 (3marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

b) 10112 is a ones complement binary representation of negative number using four bits work out the likely positive equivalent in base 10. (4marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 ……………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

c) Convert the decimal fraction 10.37510 into its binary equivalent (4marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

d) Assuming the existence of base five, list the numbers used in the number system (1mark)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

18. a) State and explain two disadvantages that will come about if a network was to be installed in your

 school. (4marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………

 b) Discuss two disadvantages of wireless networks. (4marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………

 c) Write the following abbreviation in full. (4marks)

 i) F.T.P

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 ii) H.T.T.P

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 d) With the aid of a diagram, discuss Hybrid topology. (3marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 e) Discuss one advantages of a client / server network. (2marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………

19. a) Explain why a computer is able to display the correct time and date when it has just be switched on.

 (2marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 b) Discuss two types of special memories found in a Computer System. (4marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 c) i) Define a Bus with reference to a computer system. (1mark)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 ii) List two examples of buses. (2marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 d) Distinguish between a power cable and interface cable. (2marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 e) Differentiate between the different types of RAM. (4marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………

20. a) i) Define a system. (1mark)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………

 ii) Explain system entropy. (2 marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………

 b) State three circumstances that can lead to development of information systems (3marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 c) Distinguish parallel changes over from straight change over as used in system implementation.

 (2marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 d) Discuss two fact finding methods. (4marks)

 ……………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..……………………………………………………………………………………………………………………………………………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 e) Differentiate an open system from a closed system. (2marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………

 f) List two responsibilities of a system analyst. (2marks)

 ……………………………………………………………….……………………………..………………………………………………………………………………………………………………………………