**TERM 2 - 2022**

**COMPUTER STUDIES 451/1**

**FORM FOUR (4)**

**PAPER 1**

**THEORY**

**TIME 2 ½ Hours**

**NAME……………………………………………………ADM NO……………………………**

**SCHOOL…………………..SIGN: ………………………. DATE:………….**

**INSTRUCTION TO CANDIDATES**

* Write your name and index number in the spaces provided above
* This paper consists of **Two** sections **A** and **B**
* Answer **ALL** questions in section **A**
* Answer question16 and any other **THREE** questions from section **B**
* All answers should be written in the spaces provided on the question paper

**FOR EXAMINER’S USE ONLY**

|  |  |  |
| --- | --- | --- |
| **SECTION** | **QUSTIONS** | **CANDIDATE’S SCORE** |
| A | 1 -15 |  |
| B | 16 |  |
| 17 |  |
| 18 |  |
| 19 |  |
| 20 |  |
|  | **TOTAL SCORE** |  |

**SECTION A (40 MARKS)**

**Answer ALL the questions in SECTION**

1. State three functions of the control panel **(3marks)**

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1. Use the passage below to answer the questions that follows

O

**ral literature** is a broad term that includes: epics, folklore, proverbs, folksongs, oral poetry, jokes, myths, ritual chants, spells, legends, riddles, tongue-twisters, word games, recitations and word games. *Broadly it refers to any form of verbal art that is transmitted through word of* mouth.

Jane Nandwa and Austin Bukenya (1993) describe oral literature as:

 “Those utterances whether spoken, recited or sung whose composition and ~~performance exhibit to an appreciable~~ degree the artistic character of accurate observation, vivid imagination and ingenious expression.”

When used in a piece of writing, oral literature in its various genres creates the effect of livening up the story and giving it an identity besides other functions such as capturing the audience’s attention and stressing important points. These effects of orature are portrayed vividly in Okot P’ Bitek’s novel “**White Teeth**.”

1. Mention three paragraph formatting features used in the passage above **(3marks)**

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1. With an aid of examples describe three text formatting features applied in the above passage **(3marks)**

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1. As regards to communication within computer network, what do you understand by the following terms **(2marks)**
2. Point –to-Point

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1. Broadcast

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1. Describe three components of video conferencing **(3marks)**

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1. With reference to Desktop publishing describe the following terms **(2marks)**
2. Gutter

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1. Stroke

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1. Lindah does not understand why computers are said to be **Automatic** at the same time they have No Intelligent Quotient (**IQ**) **(2marks)**

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1. State the difference between private university and public university **(2marks)**

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1. Ronaldo a student from Lenana School lives in a house with full internet access. She spends most of her time on phone and Desktop computer. State any three social issues associated with doing this **(3mks)**

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1. Mention three factors to consider when choosing a file organization method **(3marks)**

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1. Give two reasons to justify why many computer users today prefer saving their documents in the google drive **(2marks)**

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1. Computerization and automation are the great innovations of the 21st century. Describe how introduction of computers in the work place affected the job market **(3marks)**

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1. Mention three characteristics of human beings that can be used to enable computerized law enforcement systems**(3marks)**

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1. Use illustrations to explain two ways of implementing FOR loop **(2mks)**

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1. Explain the function of the following as used in data security and control **(2marks)**
2. Patches

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1. Firewall

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1. The office has a fast internet connection for transferring information. However sometimes the internet run slowly. Give two reasons why this could be the case. **(2mks)**

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**SECTION B (60 MARKS)**

**Answer Question 16 (Compulsory) and Any other THREE in this Section**

1. Describe the following qualities of an algorithm **(2marks)**
2. Definiteness

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1. Finiteness

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1. State three differences between Assembly language and Machine language **(3mark)**

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1. Study the Pseudo code below and use it to answer the question that follows

**Start**

 **Input Initial Deposit**

 **Input Interest Rate**

 **Set Deposit to Initial Deposit**

 **Set Year to Zero**

 **While Year <=4 Do**

 **Interest =Deposit \* Interest rate**

 **Total = Deposit +Interest**

 **Deposit =Total**

 **Year=Year+1**

 **Endwhile**

 **Display Total**

 **Stop**

1. Given that the Initial Deposit is 2000 and the Interest rate is 10% get the final total **(4marks)**
2. Draw a flowchart for the above algorithm using a Repeat.... Until **(6marks)**
3. Study the table below and answer the questions that follow

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | A | B | C | D | E | F | G |
| **1** | **Student Name** | **Math** | **English** | **Computer** | **Total** | **Average** | **Grade** |
| 2 | James Pesa | 24 | 22 | 52 |  |  |  |
| 3 | Maureen Kamau | 60 | 17 | 71 |  |  |  |
| 4 | James Jared | 24 | 41 | 10 |  |  |  |
| 5 | Mary Anna | 52 | 63 | 81 |  |  |  |
| 6 |  |  |  |  |  |  |  |

1. Write down the formula that
2. Calculate the total marks for Maureen Kamau **(2marks)**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Calculate the total marks for students with more than 50 and above in Maths **(2marks)**

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1. Get the mean score for Computer **(2mark)**

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1. The grading system is a shown in the table below .Write a function that will assign grades as reflected in the table below **(3marks)**

|  |  |
| --- | --- |
| Average | Grade |
| 80 - 90 | A |
| 70 - 80 | B |
| 60 -70  | C |
| 50 - 60 | D |
| 0 - 49 | E |

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1. Write a formula using named reference that counts the total number of students who have scored more than 50 in computer **(2marks)**

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1. Describe three features that make spreadsheet application suitable for mathematical applications **(3marks)**

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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A formula = B$2+$C2 was typed in cell C2 the copied to cell C3 and the finally to D3. State how the formula will appear in D3 **(1mark)**

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1. What is the binary equivalent of $24\frac{12}{32}$ base 10 **(3marks)**

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1. Convert 5BA2H to Binary **(3marks)**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Using 8-bits twos complement subtract 1910 from 1410 **(3marks)**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Given that the left most digit is a sign bit work out the decimal equivalent of the following binary numbers
2. 001110101102**(2marks)**

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1. 101001110102**(2marks)**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Describe two coding schemes used by computers to represent data in a computer **(2marks)**

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1. Study the tables shown below and use them to answer the questions that follow

Table 1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Admission No** | **Name** | **Guardian ID** | **Date of Birth** | **Class** | **Hall** | **County**  |
| **0978** | **Peter Kilulu** | **P0023** | **12-12-1999** | **Form Three** | **Moi** | **Kiambu** |
| **4678** | **John James** | **P0045** | **07-08-1999** | **Form Two** | **Kenyatta** | **Muranga** |
| **6754** | **Luke Kenya** | **P0023** | **06-01-2000** | **Form One** | **Uhuru** | **Migori** |

**Table 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Guardian ID** | **Name** | **Address** | **Telephone**  | **County** |
| **P0023** | **John Mayi** | **P.O Box 123 Kisumu** | **0723567453** | **Kisumu** |
| **P0045** | **Jerry Watu** | **P.O. Box 2341 Nairobi** | **0745897654** | **Nairobi** |
|  |  |  |  |  |

1. Choose the most appropriate key field for Table 1 and 2 **(2marks)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Identify the most suitable data types Admission No and Date of Birth **(2marks)**

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1. Describe how a relationship can established between Table 1 and 2 **(3marks)**

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1. Write an expression to validate Date of Birth to allow dates that following in the year 1999 only **(2marks)**

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1. Peter Kipasi is the system analyst for Finaly group of companies. The Company Management automated their operations to have a competitive advantage over other companied in the same field. Peter received a memo from the CEO requesting him to consider changing the current information system. State what might have necessitated this **(3mark)**

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1. State three qualities of a good system analyst **(3marks)**

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1. Mention four limitations of computer networking **(4marks)**

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1. Explain how fibre optic transmit data signal and yet the core can only allow light signals to pass through **(3marks)**

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1. State the function of the following Communication devices
2. Router **(1mark)**

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1. Switch **(1mark)**

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1. Bridge **(1mark)**

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1. NIC **(1mark)**

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1. Identity the Network topologies represented in the table **(4marks)**

|  |  |
| --- | --- |
| **Name:** | **Name:** |
|  |  |
| **Name:** | **Name:** |
|  |  |