**Name………………………………………………….Index: No……………………………**

**Adm.No…………………School………………………….class……….**

451/1

COMPUTER STUDIEs

PAPER 1

THEORY

2 ½ Hours

 

**EAGLE JOINT EXAM 2021**

**COMPUTER STUDIES**

**PAPER 1**

**THEORY**

***Instruction to Candidates.***

1. **Write your Name, Class and Index Number in the spaces provided at the top of this paper.**
2. **This paper consists of TWO sections; A and B.**
3. **Answer ALL the questions in Section A.**
4. **Answer question 16 and any other THREE questions from Section B.**
5. **All answers should be written in the spaces provided on the question paper.**
6. **This paper consists of 10 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**

***For Examiner’s Use Only.***

|  |  |  |
| --- | --- | --- |
| **Section** | **Question** | **Score** |
| **A** | **1 - 15** |  |
| **B** | **16** |  |
| **17** |  |
| **18** |  |
| **19** |  |
| **20** |  |
| **TOTAL** |  |

**SECTION A (40 marks)**

***Answer ALL the Questions in the spaces provided.***

**1. Define the term system unit. (2marks)**

The main part of the computer that houses the cpu, storage devices and other electronics.

**2. State four safety precautions to be observed in computer lab. (4marks**)

* Power cables should be insulated
* Provide standard furniture
* Proper ventilation
* Walls should not be painted with bright colours
* **Avoid overcrowding lab with computers or users.**

**3. Define the following terms (3marks)**

**i) Amplitude**

Maximum displacement that the wave form of an electric signal can attain

**ii) Frequency**

The number of circles made by the signal in one second.

**iii) Periodic time**

Time taken by a signal to complete one cycle.

**4. State two attributes of a good system analyst. (2marks)**

* Critical thinking ability
* Strong problem solving
* Project management skills
* Ability to work under pressure and tight deadline

**5. (i) Explain any page orientation that can be used to define a Desktop Publication layout (**2marks).

* Landscape
* Potrail

 **(ii) Define the term cropping. (1mark)**

Process of trimming the unwanted parts of a graphical object so as to focus attention o a particular area of a graphical area of a graphical object.

6. **An institution opted for a laser printer over dot matrix printer. State two reasons why the institution opted for the laser printer (2marks).**

* Print quality
* Speed of printing
* Noise(with dot matrix)

**7. State two devices required in order to conduct a video conference. (2marks**)

Multimedia devices

Appropriate communication software

**8. Name two examples of web browsers. (2marks)**

* Ms edge
* Mozilla firefox
* Netscape navigator
* Google chrome
* Opera.

**9. (a) Explain the term toggle keys as used in computer keyboard.(2marks)**

Key that is used to turn a function on or off or to switch between two functions.

**b) Differentiate between delete key and backspace key as used in computer keyboards (2marks**)

Delete-use to erase characters or words from left to right on the same line

Backspace-thi key delate typed characters or words from right to left on the same line.

**10. Differentiate between logical and physical files. 2marks)**

Logical files-viewed data items it contain and details of procesing operation that can be performed on the data items.

Physical files-one that is viewed in terms of actual data stored on storage media and how the processing operations are made possible.

**11. Name two types of special purpose memory. (2marks)**

* Buffers
* Cache memory
* Registers

**12. State three functions of UPS. (3marks)**

* Provide short circuit protections
* Monitoring and logging of the status of the power supply
* Continously provides power to equipment during line sags
* Absorb relatively small power surges.

**13.( a) Define electronic word processor? (1mark)**

An application software that enables the user to creat, edit, format and print text documents.

**b) Differentiate between merging and splitting cells as used in word processor. (2marks**)

Merging-combining several cells into one cell

Splitting-sub-dividing a cell into several cells

**14. ( a) What is disk formatting? (2marks)**

The process of preparing a disk (storage media) for use by imprinting/clearing.

 **(b) State two important of formatting a disk before use. (2marks)**

* To make it compatible with the operatng system
* To clear any stray data.

**15. Explain two meanings of WORM in relation to computer.(2marks)**

* Write once read many
* Malicious progra itself and clogg/attach itself to the system memory.

**SECTION B (60 marks)**

***Answer Question 16 and any other three questions from this section in the spaces provided.***

**16. (a) (i) Define programming language (2 marks)**

A special set of symbols used to develop computer instructions

 **(ii) State any two examples of third generation programming languages (2 marks**

Pascal, cobol, fortran, basic c

**(b) Other than flowchart, state any other algorithmic tools. (2 marks**)

* Pseudocodes
* Decision tables
* ERDs

 **(c)** **Wasili is a taxi company that owns three models of cars; Prado, NZE and Vitz. The company uses a computerized system to run its operations. Customer’s details required are Name, Telephone, current location and Destination. Upon capturing the customer’s location and destination, the system automatically computes the distance. The company charges basing on car model used at Ksh 70 (Prado), Ksh 60 (NZE) and Ksh 50 (Vitz) per kilometer for the first between 1 -10km. If the vehicle travels more than 10Km, a customer is given 10% discount of the total cost. Draw a flowchart that will be used to compute and display total charges for a customer. (9 marks)**

Initialize distance

Read: name,telephone

Cuttent location,destination

Is car model PRADO

Prado?

Is car mode NZE

NZE

Is car model vits

vitz

Is x >10?

Is x >10?

Is x >10?

Charge = x \* 70 \* 90/100

Charge = x \* 60 \* 90/100

Charge = x \* 60

Charge = x \* 70

Charge = x \* 50 \* 90/100

Charge = x \* 50

DISPLAY CHAARRGES

**17. (a) Outline any four areas that are considered during requirements specification stage of system development (4 marks)**

* Output specification
* Input specification
* File/data stores
* Hardware/software requirements
* Processing tasks.

 **(b) State three factors considered during file conversion in system implementation. (3 marks)**

Whether the new system requires a new operating system and hardware

Whether you need to install new application software

Whether you need to creat new database files for the new system.

**(c) State the functions of the following parts of the fibre optic cable: (3 marks)**

**(i) Core**

Centre part of the cable and is made of transpaarent plastic or glass through which data is propagated in form of light

**(ii) Cladding**

Layer surrounding the core that causes light to travel through the core due to total internal reflection

 **(iii) Jacket**

Outer plastic shield that strenghtens and protecs the fibre cable from weather and physical damage.

**d) (i) Differentiate between attenuation and bandwidth as used in data communication (2 marks).**

Attenuation-signal loss reslting from decrease in strength and energy as it progressively moves along transmission medium

Brandwith-maximum amount of data that a transmission medium can carry out any time.

 **(ii) State three advantages of bounded over unbounded media communication. (3 marks)**

**18. (a) Study the chart/diagram below carefully and identify the gaps labeled (4 marks).**

COMPUTER SOFTWARE

ACQUISITION

A

PURPOSE

APPLICATION

B

C

D

E.g Microsoft office

office

1. A End user license
2. B..system software
3. C ..vendor off the shelf software
4. D ..inhouse developed software

**b) (i) What is a PnP device?** (1 mark)

Plug and play-part of windows that enables a computer system to adapt to hardware changes with mimimal intervention by the user

 **(ii) State two examples of PnP devices. (2 marks)**

* Keyboard
* Monitor
* Mouse

**c)( i) The following is an example of a spreadsheet function in cell D10**

 **=SUM($H1:H10)**

˽˽ ˽˽ ˽˽

A B C

**Identify parts labeled. (3 marks)**

(i)A ..equal sign

(ii)B..function

(iii) C ..range

**ii) The function above was copied to cell B15. State the new function in the cell B15. (2 marks)**

=SUM($H6:E15)

**d) State three function of Database Management System (DBMS). (3marks)**

* Concurrency
* Security
* Backup and recovery
* Integrity
* Data description

**19. (a) State two uses of recycle bin folder as used in the operating system.(2 marks)**

* Use to delete information permanently
* Use to restore back information.

 **(b) Explain the Drag and Drop operation files operation. (2 marks)**

The user drags an item from one location on the screen to another.

 **(c) State and explain two function of operating system. (4marks)**

* Job scheduling
* Memory management
* Error handling
* Interrupt handling
* Input/output handling
* Communication control and management

**(e) Define simulation** (1 mark)

Science of representing the behavior of real life situation by using computerized models

**(f) Differentiate between CAI and CAL. (2 mark)**

CAI-use of a computer to learn drill and practise particular educational principled

CAL-presents educational materials the way a teacher does in classsroom**.**

**20. (a)using place value method convert 4110 in to binary equivalent (4 marks)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 26 | 25 | 24 | 23 | 22 | 21 | 20 |
| 64 | 32 | 16 | 8 | 4 | 2 | 1 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

41-32= +9=1

9-16= -7=0

9-8= +1=1

1-4= -3=0

1-2= -1=0

1-1=0=1

 **(b) Convert -1710 to binary and leave answer in signed magnitude (4 marks)**

|  |  |  |
| --- | --- | --- |
| 2 | 17 | REM |
| 2 | 8 | 1 |
| 2 | 4 | 0 |
| 2 | 2 | 0 |
| 2 | 1 | 0 |
|  | 0 | 1 |
|  |  |  |

=(1)10001

 **(c) Differentiate between online and real time Electronic Data Processing Mode and give example in each case. (4 marks)**

Online data processing-data is processed automatically on a remote computer known as server

Real time- computer processes the incoming data as soon as its occurs and gives an immediate feedback in real time

**(d) State three limitations of electronic data processing. (3 marks)**

* Security of data maybe compromised during storage or while on networks if appropriate measures are not taken
* Lack of legal frameworks in many countries that should support online and distributed electronic processing activities
* Lack of technical skills among many workers to suport electric data processing.

**THIS IS THE LAST PRINTED PAGE.**