840/1 COMPUTER STUDIES

SECTION A

1. VGA is.
   a) Video Graphics Array
   b) Visual Graphics Array
   c) Volatile Graphics Array
   d) Video Graphics Adapter

A

2. Chief component of first generation computer was
   a) Transistors
   b) Vacuum Tubes and Valves
   c) Integrated Circuits
   d) None of above

B

3. The ALU of a computer normally contains a number of high speed storage element called
   a) Semiconductor memory
   b) Registers
   c) Hard disks
   d) Magnetic disk

B

4. In which language is source program written?
   a) English
   b) Symbolic
   c) High level
   d) Temporary

C

5. Which of the following is used only for data entry and storage, and never for processing?
   a) Mouse
   b) Dumb terminal
   c) Micro computer
   d) Dedicated data entry system

B

6. An application program that helps the user to change any number and immediately see the result of that change is
   a. Desktop publishing program
   b. Database
   c. Spreadsheet
   d. All of above

C

7. Which of the following produces the best quality graphics reproduction?
   a) Laser printer

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b) Ink jet printer
c) Plotter
d) Dot matrix printer

C

8. What is a motion path?
a) A type of animation entrance effect
b) A method of advancing slides
c) A method of moving items on a slide
d) All of the above

C

9. What is the short cut key to open the Open dialog box?
a) F12
b) Shift F12
c) Alt + F12
d) Ctrl + F11

A

10. A collection of 8 bits is called
a) Byte
b) Record
c) Word
d) Nibble

A

11. A source program is the program written in ..... language.
a) English
b) Symbolic
c) High level
d) object

C

12. When the same data field is stored more than once in a file, then it leads to
a) Data redundancy
b) Data inconsistency
c) Data dependency
d) Data independence

A

13. A distributed network configuration in which all data/information pass through a central computer is a.
a) Bus network
b) Star network
c) Duplex
d) Multiplex

B

14. The simultaneous transmission of data to a number of stations is known as
a) Broad cast
b) Band width
c) Aloha
d) Analog transmission

A

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15. The process of transferring files from a web page on the internet to your computer is called.
    a) Uploading
    b) Forwarding
    c) Transferring
    d) Downloading

D

16. A web page is located using a _____.
    a) Universal Record Linking
    b) Uniform Resource Locator
    c) Universal Record Locator
    d) Uniformly Reachable Links

B

17. Which would you do first when troubleshooting a faulty monitor?
    a) Check its connections to the computer and power source
    b) Use a meter to check the CRT and internal circuitry for continuity
    c) Power down the monitor, then turn it on again to see if that corrects the problem
    d) Power down the computer, then turn it on again to see if that corrects the problem

A

18. In a computer spreadsheet, block of cells is called
    a) Range
    b) Column
    c) Workbook
    d) function

A

19. A person who uses his or her expertise to gain access to other people's computers to get information illegally or do damage is a
    a) Hacker
    b) Analyst
    c) Spammer
    d) Programmer

A

20. What is the name given to that part of a word processing package that is used to automatically insert names, addresses, and other text into designated locations in a series of letters?
    a) Mail merge
    b) Page layout
    c) Block move
    d) Word wrap

A

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SECTION B

Answer all questions in this section

21. (a) Mention two uses of computers in the area of transport (2 Marks)

- Global Positing System, or GPS. These feature a screen that shows a map which track your vehicle's movement through satellites signals.
- ONLINE BOOKING. We can book our tickets of bus, train; airplanes online.
- Traffic lights are embedded with java programming languages which enables smooth flow of vehicles in urban centers.
  Transport Apps like Safe boda, Uber help people to board easily

(b) List and explain any six characteristics of modern computers (2 Marks)

- Speed: Most computers carry out billions of operations in a single second. The world's fastest computer can perform trillion of operation in one second.
- Accuracy: computers process large amounts of data and generate error-free results provided the data is input correctly and instructions work properly.
- It can process multiple amounts of data.
- Communication: Most computers today can communicate with other computers, often wirelessly. Computers with this capability can share any of the four-processing cycle operation (input, process, output and storage)
- Reliability and consistency: the electronic components in modern computers are dependable because they have a low failure rate. The high reliability of computers enables the computer to produce consistent results.
- Versatility: It means the capacity to perform completely different type of work.
- Storage: The computer has an in-built memory where it can store a large amount of data.
- Artificial intelligence
  Computers are artificially intelligent. i.e. They can be programmed to assume capabilities such as learning, reasoning, adaptation, and self-correction.

- Adaptability: Modern Computers can be adapted to comply with different settings and environments.
- Diligence(Endurance)
  Computers have the ability to perform the same task for a long time without getting tired.

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- Upgradable
- Multiprocessing
- Multitasking
- They are cheaper
- They are communicative/collaborative/interactive
- They need electrical power
- They are generally portable
- They are cheaper
    a. They are generally portable
- They are collaborative/interactive/communicative

(c) Outline any two examples of personal computers (2 Marks)

- Desktop computers.
- Laptop computers.
- Palm top computers
- Personal digital assistants. (PDA)
- Phones with functionalities of a computer.
- I-pads.

22. (a) With an example define a digital computer (1 Mark)

Digital computers are computers that represent data in form of discrete values (numbers that can be defined like 1, 2, 3 e.t.c) e.g. Scoreboard that directly counts discrete values such as the time left to play and the score of each team. Digital watch

(1X1)

(b) Distinguish between digital and analog computers (2 Marks)

Digital computers are computer that represent data in form of discrete values (numbers that can be defined like 1,2,3 e.t.c) e.g. Scoreboard that directly counts discrete values such as the time left to play and the score of each team.

While

Analog computers are computers that process data that is continuous or measurable quantities e.g. thickness of steel plates e.g. Thermometer, voltmeter, speedometer, the slide rule, analog watch, Target data computer etc.

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(c) What is meant by the term Evolution of computers (1 Mark)

Computer evolution is the gradual development/improvement/modification/advancement/growth of computing devices/technology from simple to more complicated and advanced forms.

02 marks

(d) As a student of computers studies give any five distinctions between second generation computers and fifth generation computers. (5 Marks)

Second generation

- **The computers used transistor instead of vacuum tubes.**
- **During this period magnetic cores were invented for storage.**
- **They used transistors for internal operation and processing**
- **Magnetic tapes and discs were used to store data,**
- **Magnetic cores were invented as memory,**
- **Development of high level language e.g. Fortran (Formula Translation) COBOL (Common Business Oriented)**
- **Computers became large in number in business and universities.**
- **During the second generation professionals such as programmers emerged**
- **All systems were batch oriented,**
- **The cost of computers reduced.**
  Computers became more fast and reliable.
- **The size of computers reduced compared to that of first generation.**
- **Computers begun using programs or applications e.g. Critical Path Method (CPM)**
  Fifth Generation
- **The speed is extremely high in fifth generation computer.**
- **They can perform parallel processing.**
- **The concept of Artificial intelligence has been introduced to allow the computer to take its own decision. It is still in a developmental stage.**
- **Ultra-Large-Scale Integrations are introduced.**
- **They are also used in Nuclear, Science and Space Technology.**
- **These computers have more than one processor**
- **Have high speed of processing with accuracy and reliability**
- **Smaller and high storage memory.**
- **Expert System, Robotic and Natural Language Processor are examples of Fifth Generation of computers.**
- **Highly sophiscated operating systems**

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23. (a) What is meant by Computer input hardware?

(1 Mark)

- **An input device is any hardware component that allows you to enter data or instructions into the computer**

  Or
- **Input devices are devices used to enter data or commands in a form that the computer can use.**

  Or
- **These are devices that send the data or commands to the processing unit.**

(c) Distinguish between optical storage devices and solid state devices

(2 Marks)

Optical storage device are storage devices that represent data using light laser beams.

While

Sold state devices are storage devices that consist entirely of electronic circuits and contain no moving parts.

(Both have to be correct to award the 2 marks)

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(c) State four differences between Command line interface and graphical user interface. (4 Marks)

COMMAND LINE	WINDOWS (GRAPHICAL USER INTERFACE
This is an interface that allows users to interact directly with the computer system by typing special keys on the keyboard	These are interfaces which use icons, small pictures and viewable images to issue commands.
Uses the keyboard only to issue commands	Uses the mouse to issue commands however you can also use a keyboard
You are provided with blank screen where commands are typed	A desktop and other graphical features like icons, windows, menus and pointer are provided
Interface takes up little memory and doesn't require very fast processor.	Needs or requires more memory as well as a faster processor.
Operation is fast because commands can be entered directly through the keyboard	Operation on the windows environment depends on the powerfulness of the processor.
Many commands can be grouped together as a batch file so that repetition task can be automated.	It is difficult to automate functions for expert users.
Commands can be learnt	Graphical user interface is a user friendly because it is easy to learn and work with.
Commands have to be memorized	Commands do not need to be memorized because the commands are represented with icons and pictures.

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(d) Write DOS in relation to computers in full (1 Mark)

Disk Operating System

(e) List any two examples of word processing packages. (2 Marks)

- **Microsoft word.**
- **Google Docs**
- **Abi word**
- **Word Pad**
- **LibreOffice Writer**
- **Apache Open office writer**
- **WPS office writer**
- **Zoho writter**

24. (a) What is the difference between customized software and off the shelf software? (2 Marks)

- **Customized software: Is a software designed to meet the needs of a particular organization or user (consumer) and performs function specific for the business or industry.**

Or

This is an application software designed at a user's request and meets the needs of that particular user or organization.

Or

Is software that is specially developed for some specific organization or other user.

While

- **Off-the-shelf software is a mass produced, copy written retail software that meets the needs of wide variety of users not just a single user or company.**

Or

Is application software available in general nature and meets the needs of many users.

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(b) You have been appointed the Executive secretary of UMTA and you are sourcing to
procure a software package to analysis students' results for UMTA mocks. Mention
the type of software package and give any four advantages why you use that package
to manipulate the results.
(4 Marks)

Electronic Spreadsheet: (VisiCalc, Lotus 1-2-3, Microsoft Office Excel, Quattro Pro, Microsoft Works, Multiplan, View sheet, Lucid 3D, etc.)

An electronic spreadsheet program: This is an application software with a grid of rows and columns that accepts entry of data, allows editing, formatting and manipulation (or performing calculation on data) of numeric data.

(Award marks for any singled out spreadsheet program .e.g. Microsoft excel)

- **They have pre-existing tables, thus, no need to draw gridlines**
- **They have in-built formulas and functions, enabling automation in calculations and work manipulations**
- **There are minimal errors and in case of any, they are easily corrected**
- **They have very large worksheets that can store a lot of work easily and for long**
- **Extra columns and rows can be inserted and deleted without any bad effect**
- **The work can be protected with passwords thus ensuring security**
- **Work can be enhanced to look very attractive with various formats to suit the user's needs**
- **The records can be sorted and filtered to get only those that you want**
- **They allow printing of multiple copies without re-creation**

(c) List any four circumstances that may necessity you to restart your computer.(4 Marks)

- **When an application or operating system freezes/hangs/ does not respond**
- **After installation of a new software (application or utility)**
- **When a peripheral or hardware component has failed to function/work**
- **During/After installation of operating system.**
- **After changing use control settings(CMOS/BIOS settings)**
- **When a user wants to clear a malicious infection like malware, spyware, viruses that are in memory**

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- After software update
- After uninstalling software
- After uninstalling hardware
- After installing a new hardware
- When the computer system slows down
- When there is suspected system tapping
- When a user wishes to switch from one operating system to another (Multiple O.S)
- After malware/virus scanning
- When a deadlock occurs
- Before Installing software
- When application software fails to work

Any 4x4= 4 marks

25. (a) Explain the following terms (4 Marks)

(i) Hyper link

This is a built -in element for connection from a web page to another related web page or part of a web page.

This is a web feature (element) that allow you to navigate around the World Wide Web by connecting you to related webpages

(ii) A webmaster

This is a person responsible for creating, managing and maintaining a website.

(iii) A blog

This is regularly updated website or online platform where an individual or group of individuals shares their thoughts, opinions, experiences, and information on various topics.

Or

A blog: Is a web page that has short frequent updates to it.

Or

This is a website like personal journal published on the World Wide Web

(iv) Web browser

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A web browser is application software that allows users to view or access web pages.

Or

A web browser (commonly referred to as a browser) is a software application for retrieving, presenting and traversing information resources on the World Wide Web.

(b) (i) What is a slide show as used in presentation (2 Mark)

This is a feature in presentation that enables slides to move in a defined sequence at a present timing that one can control and change with special effects.

(ii) Explain the following terms as used in a Slide show (4 Marks)

Transitional effect

This refers to different visual movement styles in which slides come and leave the screen during a presentation.

Slide transition is a special effect for introducing an entire slide during a slide show

Animation effect

This refers to different visual movement styles in which text and pictures inside the slide come and leave the screen during a presentation.

Or

The visual movement of the items inside the slides

26. (a) Define the term programming (01 Mark)

- **The term programming refers to the process of developing computer instructions (programs) to solve a particular task.**

OR

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- Programming involves use of special characters, signs and symbols found in a particular programming language to create computer instructions.

(b) List any two factors you would consider when designing a good pseudcode. (02 Marks)

- The statements must be short, clear and readable.
- The statements must not have more than one meaning i.e. should be unambiguous.
- The pseudo code lines should be clearly outlined and indented clearly.
- A pseudo code should show clearly the start and stop of executable statements and the control structures (to be discussed later in the section).
- The input, output and processing statements should be clearly stated, using keywords such as PRINT, READ, INPUT etc. Example 3.1 demonstrates how to write a pseudo code

(c) Write the following in full

(i) OOP (02 Marks)

Object Oriented Programing

(ii) HTML

Hyper Text Mark-up Languages

(d) Define the term computer ethics.

(01 Mark)

Computer ethics are the moral guidelines that govern the use of computers and information systems

(e) Give any two career opportunities in information and communication technology and explain one function for each (04 Marks)

- Webmasters / Web developers: design, develop and maintain web sites and web systems.
- Computer Trainers: teach new users how to use the computer software and hardware.
- System administrators: responsible for the upkeep, configuration, and reliable operation of computer systems; especially multi-user computers, such as servers.
- Computer support specialists: provide technical help/advice to customers and other users.

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- Computer technicians: repair and install computer components and systems.
- Data entrants: enter customer information, lists, and other type of data into computer systems.
- Technical writers: prepare instructional manuals, technical reports, and other scientific or technical documents.
- Network administrators: responsible for the design, implementation and maintenance of networks.
- Database administrators: use database management software to determine the most efficient ways to organize and access a company's data.
- Computer programmers: create, test, and troubleshoot programs used by computers.

SECTION C

Answer only one question in this section

27. (a) Distinguish between Email and the internet (2 Marks)

An email is a message (text, sound, video and graphics) send and received on the internet or via a network.

While

The Internet is a global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to link several billion devices worldwide.

OR

The internet is a global network of networks that enables people to communicate and share resources



(b) State any two factors affecting computer communication on the internet. (2 Marks)

- The amount of bandwidth allocated by ones ISP.
- Connection technology used; telephone lines are much slower than newer technology such as ISDN and ADSL.
- The volume of traffic. The more the number of people logged on the internet the slower the internet speed.
- Modem speed.
- Nature of web browser used.
- Speed of the device being used to access the internet.

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(c) Mention any four communication devices used to connect two or more computers
(4Marks)

- **Hubs/concentrators**
- **MODEM**
- **Switches**
- **Repeaters**
- **Bridges**
- **Routers**
- **Network Interface Cards (NICs)**
- **Cables**

(d) Describe how you can setup a network of three computers, describing each communication device used in the setup.
(12 Marks)

- **Terminate the network cables after terminating the network straight through cables,**
- **Connect RJ45 to the NIC then connect it to the HUB for all three computer**
- **Connect power cable to the hub or switch and then connect it to the power sockets.**
- **Connect all computers to the power source until it boots up.**
- **All the three computers must have a Network Operating System (has features that can enable your network computers)**
  Configure advanced sharing on each computer enable them to discover connections, network, share files and printers.
- **Install a switch of three ports, A switch is a networking device that will provide a central connection point of all the three computers, NIC, HUB RJ45 connection**

28. (a) Differentiate between an algorithm and a pseudo code in relation to Programming.
(2 marks)

Algorithm can be defined as a finite number of logical steps that a program follows in order to solve a problem.

While

A pseudo code is a set of statements written in a human readable language (usually English-like phrases) but expressing the processing logic of a program.

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(b) Write a pseudo code to calculate and display the area of a circle
(08 Marks)

Start

Print "Enter Radius"

Input "Radius"

Area = π x Radius x Radius

Print Area

Stop

Or

Begin

Set π to $\frac{22}{7}$

Prompt the user for the radius (R).

Store the radius in a variable

(R)

Set area (A) to π x R x R

Store the area in a variable (A)

Print A.

Stop

(c) Explain how you would uninstall any application software from the computer?
(10 Marks)

- Open the Control Panel or press the Windows key, type Control Panel, and then press Enter. Or Click on Control Panel
- Click on Programs and Features, Double-click Add or Remove Programs, Uninstall a program, or Programs and Features depending on your version of Windows.
- Within the new window, select the program you want to uninstall and click the Change, Remove, or Uninstall button.
- Click finish
- Restart your computer.

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29. (a) As a computer studies student the student of the new secondary school curriculum have requested you to explain the errors below to the S2 class. (10 Marks)

(i) Device not ready

- Disable particular disk drive from the device manager
- Give it time to activate
- Re-install drivers
- Check and change power connection points e.g. USB
- Restart the device
- Re-install the Operating system
- Scan for viruses/malware
- Uninstall and or deactivate software blocking the hardware by Deep freeze
- Changes ports where applicable
- Disable and enable the device

Any 1x2 = 02 marks

(ii) Access denied when a user wants to access a particular file

- Non-system disk error when the computer system is switched on.
- He would eject the disk from the drive press any key on the keyboard to enable the boot process to continue
- Restart the computer
- Check hardware connection
- Reformat the hard disk

Any 1x2 = 02 marks

(iii) Low disk space and computer is slow

- He can fix this by deleting some files using disk cleaner utility
- He can close some files which are open and would occupy the Ram
- Back up and delete from computer
- Use of cloud computing
- Increase the Ram
- Defragmenting the hard disk
- File compression
- Run anti-virus to scan the device
- Increase/slave/add new HDD.

(iv) Our of memory

- Exit or stop programs that are running and could be blocking the user's tasks from running

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- Install or upgrade the Ram by buying another Ram chip and fixing it on the memory slot of the mother board and restarting the computer to implement the upgrade
- Run a virus scan
- Restart the system

Any 1x2 = 02 marks

(b) List down the steps of a assembling a computer (10 Marks)

- Connect the monitor to the UPS using the monitor power cable.
- Connect the system unit to the UPS using the system unit power cable.
- Connect the monitor to the system unit using VGA cable.
- Connect the mouse to the system unit.
- Connect the keyboard to the system unit.

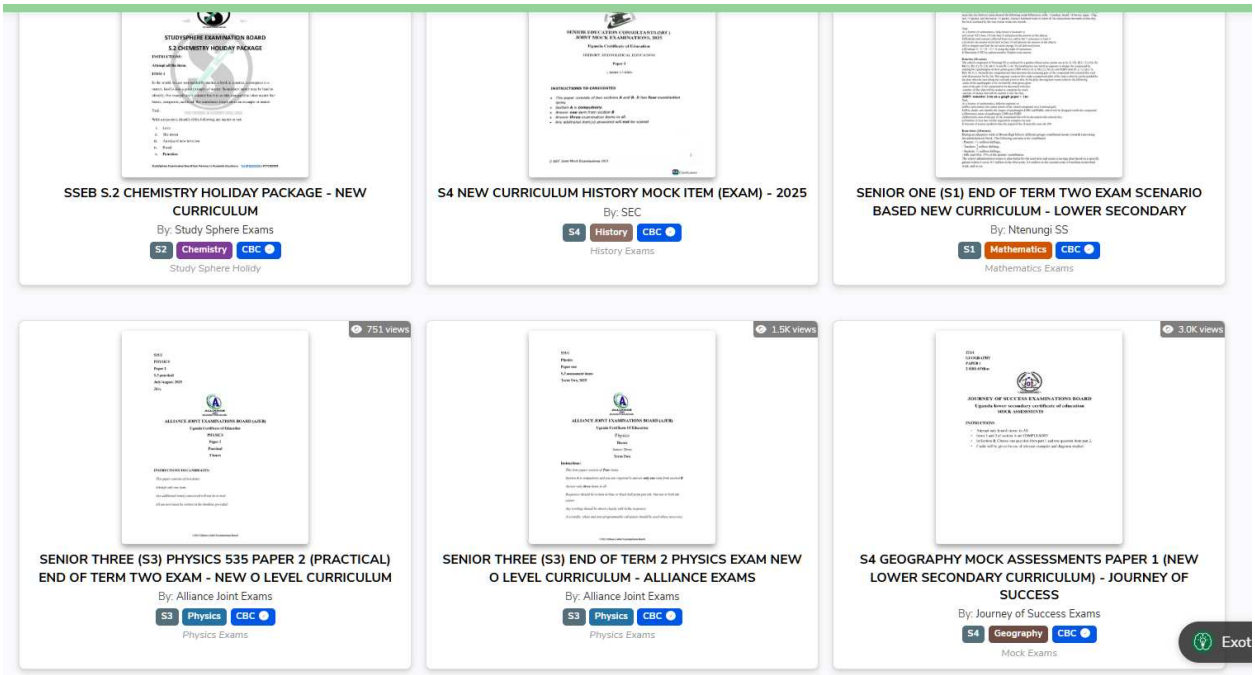
(2 X 5) = 10 marks

In order

END

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