

451/1
COMPUTER
Marking scheme
TIME: 2 Hours

TARGETER K.C.S.E TRACKER 2016
SECONDARY EXAMS
FORM 2
COMPUTER STUDIES
Marking scheme
2 hours

MARKING SCHEME

Answer all the questions in any order you prefer.

1) Write any four parts of a computer system unit, mentioning any four of its main parts. (4)

2) State any two characteristics of a computer system unit, mentioning any two of its main parts. (2)

3) Tick (✓) the correct answer for each of the following questions. Identify the correct answer. (10)

A computer that is incorporated into other devices.	embedded
A special firmware program that runs POST.	BIOS
A special memory that stores the current date and time.	CMOS
Used to move the text cursor at a set interval on the same line.	Tab key
An application software that enables the user to create, edit, format and print text documents.	Word Processor/MS Word and...

4) Identify (name and arrow to point) three text and three paragraph formatting features used in the excerpt below from a word document. (6)

5) State the action performed by the following key/keys combination in a word processor. (4)

Keyboard combination	Action
Home	Moves cursor to the beginning of the current line.
End	Moves cursor to the beginning of the current line.
Ctrl + Home	Moves cursor to the beginning of the document.
Ctrl + End	Moves cursor to the beginning of the document.

- 6) State four editing actions that may be performed on a table in a word processor. [2]
- ✓ Resizing rows/columns
 - ✓ Inserting rows/columns
 - ✓ Deleting rows/columns
 - ✓ Merging rows/columns
 - ✓ Splitting rows/columns(0.5 marks each)
- 7) a) Explain two importance of proper cabling with respect to user safety. [2]
- ✓ Trunking prevents users from tripping
 - ✓ Insulating protects users from electric shocks
 - ✓ Insulating protects computers from short circuits
 - ✓ Insulating prevents fires from sparks produced.(1 mark each)
- b) State three reasons why it is necessary to use standard furniture in a computer laboratory. [3]
- ✓ Prevents people from straining
 - ✓ Table sizes allow all equipment to fit
 - ✓ Optimization /utilization of room space(1 mark each)
- 8) a) State two devices under operating system control. [2]
- ✓ Processor
 - ✓ Memory (Ram)
 - ✓ Storage devices
 - ✓ Input/output devices and ports
 - ✓ Communication devices and ports (1 mark each)
- b) Explain any two functions of an operating system. [4]
- ✓ Processor scheduling-It refers to allocating each job awaiting execution processor time at each given interval.
 - ✓ Multi- tasking/ or multiprogramming -It is the ability of the computer to appear to run more than one program at the same time, although at a specific instant in time the CPU is dealing with only one instruction for one of the active programs
 - ✓ Maintaining security-In networks and large computers each user is given a user name or ID and password to gain access to the computer system.
 - ✓ Resource allocation-Each available resource in a computer is given a unique identification number called an Interrupt Request (IRQ). The O/S uses the IRQ number to identify the resource being requested.
 - ✓ Managing files and Memory-The OS manages all the files on a computer. It keeps track of the location where programs and data are stored in the computer's memory.
 - ✓ Managing computer resources (Input/output management)-The O/S allows application software such as word processing, to communicate with computer's hardware.
 - ✓ Communication control and management-The OS is responsible for managing various
 - ✓ Communication devices and provide an environment within which communication protocols operate.
 - ✓ Error handling-The O/S alerts the user of errors that may arise out of illegal operations, hardware or software failure.
 - ✓ Interrupt handling-An interrupt is a break from the normal sequential processing of instructions in a program. A critical request causes the processor to stop executing the current process to attend to it, before returning the control back to the process that was initially interrupted.
 - ✓ Multiprocessing-It refers to a computer systems ability to support more than one process (program) at the same time. Multiprocessing operating system enables several programs to run concurrently.(2 marks each)

- 9) a) State **four** file manipulation actions performed by an operating system. [2]
- | | |
|---------------------------------|------------------|
| ✓ viewing files and directories | ✓ sorting |
| ✓ organization of information | ✓ copying |
| ✓ creating files/directories | ✓ moving |
| ✓ opening | ✓ deleting |
| ✓ editing | |
| ✓ renaming | (0.5 marks each) |
| ✓ finding/searching | |
- b) State **three** reasons for partitioning a disk. [3]
- ✓ For separation of the operating system files from the user files.
 - ✓ Having an area for operating system virtual memory swapping / paging.
 - ✓ For keeping frequently used programs and data near each other.
 - ✓ For the purpose of backup on the same disk but different partitions so that if one partition fails the other will still be working.
 - ✓ When the user intends to install more than one operating systems on the same disk, install each on a separate partition.
 - ✓ Raising overall computer performance on systems whereas smaller file systems are more efficient. (2 marks each)
- 10) a) Explain any **two** parts of the taskbar [4]
- ✓ **Start button:** - The left most button on the taskbar that the user clicks to display the start menu.
 - ✓ **Task manager:** - It is the band where the buttons of currently running tasks are displayed
 - ✓ **System tray:** - It has icons of tasks running in the background but are not displayed on the screen. (2 marks each)
- b) State **four** factors to consider when choosing an operating system [4]
- ✓ The hardware configuration of the computer such as the memory capacity, processor speed and hard disk capacity.
 - ✓ The type of computer in terms of size and make. For example, some earlier Apple computers would not run on Microsoft operating systems.
 - ✓ The application software intended for the computer.
 - ✓ User-friendliness of the operating system.
 - ✓ The documentation available.
 - ✓ The cost of the operating system.
 - ✓ Reliability and security provided by the operating system.
 - ✓ The number of processors and hardware it can support.
 - ✓ The number of users it can support.(1 mark each)
- 11) Explain the following terms with respect to computer hardware: [3]
- a) Compatibility
- ✓ A hardware component is able to be used together with or substituted for another piece of hardware
- b) Upgradability
- ✓ Refers to the replacement of hardware, software or firmware, usually with a more advanced version.
- c) Portability
- ✓ Ease of carrying(1 mark each)

- 12) What unit is used to measure the capacity of the following devices: [2]
- Processor *Hz*
 - Memory *Byte*
 - Monitor resolution *pixels*
 - Projector *lumens (0.5 mark each)*
- 13) Distinguish between:
- Power cable and interface cable [2]
 - ✓ **Power cable connects powered components to the mains supply, interface cables connects peripheral devices to the system unit.**
 - Parallel port and serial port [2]
 - ✓ **Serial ports also known as COM or RS232 ports, support transmission of data one bit at a time while parallel cables transmit information simultaneously**
 - System software and application software [2]
 - ✓ **System software manages and supports the resources and operations of a computer system while application packages are programs designed to carry out specific tasks.**
 - Impact printers and non-impact printers [2]
 - ✓ **In impact printing, the printing head element comes into physical contact with the stationery. An inked ribbon placed between the stationery and the printing head elements while non-impact printing, the printing head element does not come into physical contact with the stationery, but by other means like thermal or electrostatic. (2 marks each NB: distinction must be proved. Either 2 marks or no marks)**
- 14) a) Explain two classifications of software according to End-User-License (EUL) [4]
- ✓ **Open source or non-proprietary software-refers to software whose source code (programmed set of instructions) is freely made available to users. The users are encouraged to use, modify and distribute the product.**
 - ✓ **Proprietary software are those software whose source code is hidden from users. Modifications are only made by the software manufacturers.**
 - ✓ **Freeware are software products that are freely made available to the user (2 marks each)**
- b) State any four factors to consider when purchasing software [4]
- ✓ **Authenticity-This refers to genuineness, validity and or legitimacy of an item.**
 - ✓ **Documentation-It refers to the manual prepared by the developer having details on how to install, use and maintain the software.**
 - ✓ **User needs**
 - ✓ **Reliability and security**
 - ✓ **User friendliness**
 - ✓ **Cost**
 - ✓ **Compatibility and system configuration**
 - ✓ **Software compatibility**
 - ✓ **Portability**
 - ✓ **Upgradability**
- (1 mark each)
- 15) List any four soft copy output devices [4]
- ✓ **Light Emitting Diodes**
 - ✓ **Multimedia Projectors**
 - ✓ **Sound Output devices**
 - ✓ **Monitors**
- (1 mark each)

16) State three factors that affect the time taken to access the data on a hard disk. [3]

- ✓ **Seek time:** - The time taken by the Read/Write head to locate the right track which contains the required data. For example, if data required is on track 64. The access arm must move the head from the current track to track 64.
- ✓ **Rotational delay or Latency:** - It is the time taken for the disk to rotate from its present position to the position on the track at which the data starts.
- ✓ **Transmission time (Data transfer time):** - The time taken to transmit the data to the main storage.

(1 mark each)

17) List six examples of publications designed using Desk Top Publisher (DTP)

- ✓ **Cards**
- ✓ **Certificates**
- ✓ **Newspapers**
- ✓ **Books**
- ✓ **Calendars**
- ✓ **Business cards**
- ✓ **Journals**
- ✓ **Flyers and Posters**
- ✓ **Newsletters**

(0.5 marks each)