061306T4CSC

COMPUTER SCIENCE LEVEL 6

ICT/OS/CS/CR/01/6/A

Understand Computer Organisation and Architecture

March/April 2025

TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION COUNCIL (TVET CDACC)

PRACTICAL ASSESSMENT

Time: 2 HOURS

INSTRUCTIONS TO CANDIDATE:

1. You are required to perform the following tasks

   i. *Inspect Computer Suitability for Video-Editing Software*

   ii. *Recommend Suitable Hardware Specifications for a Student's Laptop*

2. You have been provided with the following resources for the practical tasks:

   i. *Functional computer installed with appropriate Operating System and text editing software*

   ii. *Plain paper.*

Task 1: Inspect Computer Suitability for Video-Editing Software.   (25 Marks)

Zawadi, a videographer by profession, has been hired to provide video editing services for an upcoming event in his church. He intends to upgrade his video editing software to a more updated version to ensure he delivers high quality work. He has been advised to purchase a machine with the following specifications.

Specification	Recommended value for Editing
Processor (CPU)	3.5 GHz, 12 MB cache, core i7
Storage Type	SSD (Solid State Drive), Minimum 512 GB
Graphics Card (GPU)	Dedicated GPU with 4 GB VRAM or more
Operating System	64-bit OS (Windows 10/11, macOS Monterey)
Display Resolution	Full HD (1920x1080); Recommended: 4K (3840x2160), 120hz or more
Connectivity Ports	USB 3.0 or higher, Thunderbolt, HDMI/DisplayPort

You are provided with a computer. You are required to inspect the machine specifications and find out whether the machine can support the video editing software as per the recommended values. Perform the following activities.

1. Inspect the following specifications of your computer and create a similar table in MS Word recording each appropriately.
    a. Processor (CPU)
    b. Storage Type and Capacity
    c. Graphics Card (GPU)
    d. Operating System
    e. Display Specifications
    f. Connectivity ports
2. Add a column on the table to indicate whether the computer meets the requirements or not.

3. Write an overall recommendation on the suitability of the computer to support the video editing software.

Save your report for printing at the end of the practical.

Sample Table for your Specifications

Specification	Value	Meets Requirements Yes/No
Processor(CPU)	*e.g 2.8ghz, dual core*	*No*
Storage Type		
Graphics Card (GPU)		
Operating System		
Display Resolution		
Connectivity Ports		

Overall Recommendation: This machine does not meet the minimum requirements for the video editing software. To achieve this, the processor should be upgraded to…………

Task 2: Recommend Suitable Hardware Specifications for a Student's Laptop.   (25 Marks)

Alex is a new student of Computer Science in your school. He has approached you to advice on buying a cost-friendly computer system for basic academic tasks. The computer should be portable, within a budget of Ksh. 30,000 and able to operate for at least 3 years without major upgrades.

Considering Alex's tasks and budget, you are required to advise him on the best specifications for the following components based on the outlined features:

1. Memory (RAM) in terms of Size and type
2. Input devices:

   - Mouse- based on Type, speed and connectivity
   - Microphone- based on sensitivity to sound and connectivity
   - Video Cam- based on portability and field-view
3. Output Devices:
   - Monitor- based on size and resolution
   - Keyboard- based on ease of use and type
4. Storage Technologies –can be HDD or SSD or both.
5. Processor –clock speed, generation and number of cores

Provide a reason for each recommendation given for each component above and write a report in MS Word to be printed later.

Sample Report

Component	Recommended Specifications	Reason
Memory		
Input Devices: - Mouse		