WINDROID ACADEMY

Teacher's Marking Scheme - Part II (Structured)

Grade 8 ICT | Total Marks: 60 (12 Marks per Question)

Question 1: Number Systems (12 Marks)

Q (i): Name the four (04) primary number systems used in computing.

> **Answer (4 marks):** Decimal, Binary, Octal, Hexadecimal. *(1 mark for each).*

Q (ii): Convert the Binary number 1010 (Base 2) into its Decimal equivalent. Show your calculation steps clearly.

> **Answer (4 marks):**
>
> - *Calculation (2 marks):* (1 x 2^3) + (0 x 2^2) + (1 x 2^1) + (0 x 2&sup0;) → 8 + 0 + 2 + 0
> - *Final Answer (2 marks):* **10**

Q (iii): Convert the Decimal number 12 (Base 10) into its Binary equivalent. Show your calculation steps clearly.

> **Answer (4 marks):**
>
> - *Calculation (2 marks):* Show continuous division of 12 by 2 and tracking the remainders (0, 0, 1, 1).
> - *Final Answer (2 marks):* **1100**

Question 2: Computer Configuration (12 Marks)

Q (i): Name two (02) physical ports found on a computer system unit, and state one (01) hardware device that connects to each port.

> **Answer (4 marks):** Any two valid combinations *(1 mark for port, 1 mark for device)*. Examples: USB Port → Mouse/Keyboard; HDMI → Monitor; RJ45 → Network Cable; Audio Jack → Headphones.

Q (ii): Explain what "Formatting" a USB Flash Drive means, and state why you might need to do it.

> **Answer (4 marks):**
>
> - *Meaning (2 marks):* Completely erasing all data on the drive and preparing its file system for use.
> - *Reason (2 marks):* To clear out a bad virus, to wipe sensitive data before selling it, or to fix corrupted storage.

Q (iii): State two (02) specific settings you can customize using the "Regional Settings" (or Language and Region) option in an Operating System.

> **Answer (4 marks):** Any two settings: Date and Time format, Currency symbols, Number formats, Language preferences. *(2 marks each).*

Question 3: Word Processing (12 Marks)

Q (i): State two (02) distinct advantages of using a Word Processing software over a traditional mechanical typewriter.

> **Answer (4 marks):** Any two advantages: Mistakes can be erased/edited easily, documents can be saved digitally for later use, text can be formatted in different colors, multiple copies can be printed instantly. *(2 marks each).*

Q (ii): Explain the purpose of the "Find and Replace" tool in a Word Processor.

> **Answer (4 marks):** A tool that allows the user to automatically search the entire document for a specific word or phrase and instantly replace it with a new one, saving time.

Q (iii): Write down the standard keyboard shortcut combination for the following actions: a) Cut b) Copy c) Paste d) Print

> **Answer (4 marks):** a) Ctrl + X, b) Ctrl + C, c) Ctrl + V, d) Ctrl + P. *(1 mark for each).*

Question 4: Algorithms & Flowcharts (12 Marks)

Q (i): Define what an "Algorithm" is.

> **Answer (3 marks):** A step-by-step logical sequence of instructions used to solve a specific problem.

Q (ii): Name the three (03) fundamental Control Structures used in algorithm design.

> **Answer (3 marks):** Sequence, Selection (Decision Making), Iteration (Looping). *(1 mark for each).*

Q (iii): Draw a complete flowchart on your answer sheet to represent the following problem: "Input two numbers (A and B). Calculate their sum (Total = A + B). Output the Total."

> **Answer (6 marks):**
>
> - Start Oval *(1 mark)*
> - Input Parallelogram for A, B *(1 mark)*
> - Process Rectangle for Total = A + B *(2 marks)*
> - Output Parallelogram for Print Total *(1 mark)*
> - End Oval & Arrows connecting logically *(1 mark)*.

Question 5: Logic Gates (12 Marks)

Q (i): Name the three (03) basic logic gates used in physical computing.

> **Answer (3 marks):** AND, OR, NOT. *(1 mark for each).*

Q (ii): Draw the standard electrical circuit symbols for the AND gate and the NOT gate on your answer sheet.

> **Answer (3 marks):**
>
> - *AND Gate (1.5 marks):* D-shaped symbol with two inputs and one output.
> - *NOT Gate (1.5 marks):* Triangle symbol with a small circle at the tip, one input, and one output.

Q (iii): Draw the complete Truth Table for a 2-input OR gate. Label your inputs 'A' and 'B', and your output 'Y'.

> **Answer (6 marks):** *(1.5 marks for each correct row).*
>
> - Input A=0, Input B=0 → Output **0**
> - Input A=0, Input B=1 → Output **1**
> - Input A=1, Input B=0 → Output **1**
> - Input A=1, Input B=1 → Output **1**