



Final Exam



TEST 1/2025

WELCOME EXAM

These questions were carefully prepared by The Cyberwave Official to Support Computer Science Revision for both CAIE and ZIMSEC Advanced level students. All topics have been carefully revised before this document was published.

Best wishes. Enjoy



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Section A: Binary Normalization (10 Marks)

1. Convert the decimal number **45.75** into its **binary floating-point representation** (normalized form). Show all steps. (5 Marks)

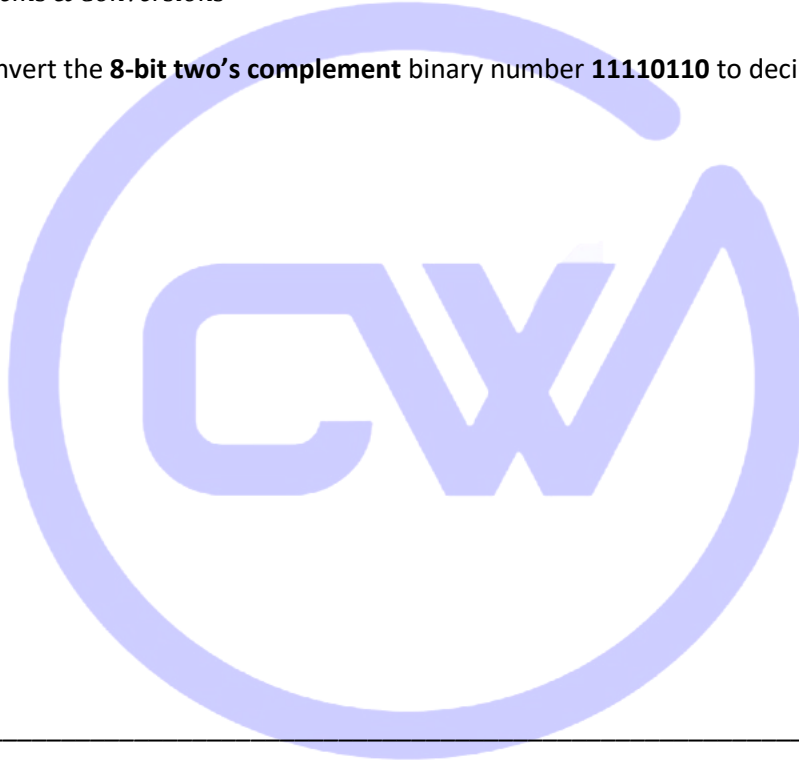
working area

2. Normalize the binary number **110.101** and express it in scientific notation. (5 Marks)

working area

Number Systems & Conversions

3. Convert the **8-bit two's complement** binary number **11110110** to decimal. (2 Marks)



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4. Convert **101011.101₂** to its hexadecimal equivalent. (3 Marks)

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5. Convert the decimal number **156.375** to floating point. Show steps. (5 Marks)



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Character Encoding & Storage (10 Marks)

6. Explain how **ASCII** and **Unicode** differ in character representation. (3 Marks)

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7. The ASCII code for 'A' is **65 (decimal)**. What is its **binary representation** in 8-bit ASCII? (2 Marks)

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8. Convert the hexadecimal number **3FA** to decimal. (3 Marks)

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9. Explain the significance of **parity bits** in error detection. (2 Marks)

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Section D: Cloud Computing (15 Marks)

10. Define **cloud computing** and list three key characteristics of cloud services. (3 Marks)

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11. Explain the differences between **IaaS, PaaS, and SaaS**, giving one example of each. (6 Marks)

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12. What is **virtualization**, and how does it enable cloud computing? (3 Marks)

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13. Name and explain any two **deployment models** of cloud computing. (3 Marks)

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Section E: Software Development Life Cycle (SDLC) (20 Marks)

14. Define **Software Development Life Cycle (SDLC)** and explain its purpose. (3 Marks)

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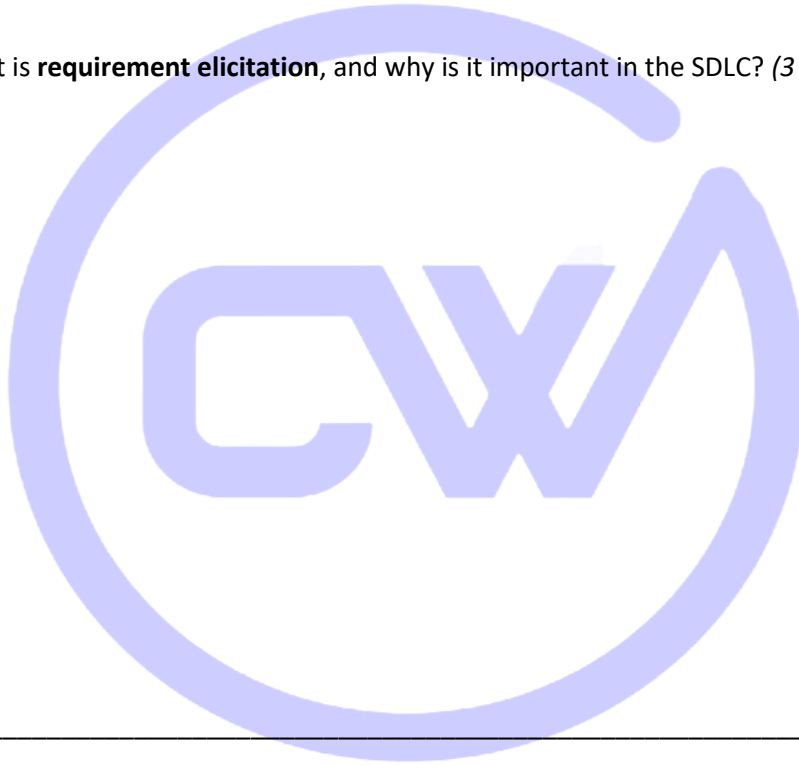
15. Name and describe the **six phases** of the SDLC. (6 Marks)

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16. Compare the **Waterfall model** and the **Agile model** of SDLC. (4 Marks)

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17. What is **requirement elicitation**, and why is it important in the SDLC? (3 Marks)



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18. Explain how **risk management** is handled in SDLC. (4 Marks)

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THE SECRET OF GETTING AHEAD IS GETTING STARTED.