FORM 3 TERM 1 2026 COMPUTER STUDIES APRIL HOLIDAY ASSIGNMENT

1. (a) Define the term Computer crime. (2 marks) (b) Explain the meaning of each of the following with
    reference to computer crimes. i) Tapping ii) Piracy. iii) Trespass. iv) Industrial espionage v) Data
    alteration vi) Fraud vii) Firewalls   c)Give two reasons that may lead to computer fraud. (2 marks)
2. Distinguish between the following terms as used in data representation in computers:
    (i). A Byte and a Nibble(2 marks) (ii). Word and Word length. (2 marks)
3. Arrange the following data units in ascending order of size. BYTE, FILE, BIT, NIBBLE. (2 marks)
4. Perform the following computer arithmetic. In each case, show how you arrive at your answer.
    (a) Convert the following Decimal numbers to their Binary equivalent. i)365_{10} ii) 15.45_{10}(1
    mark)   iii) 4575_{10} (b) Convert the following Octal numbers to their Binary equivalent. i) 775_8 ii)
    253_8
     (c) Use Binary addition to solve the following decimal summations. i) $4_{10} + 3_{10}$ ii) $13_{10} + 2_{10}$
     (d) Convert the following Hexadecimal numbers to their Binary and Denary equivalent. i)C3H
    ii) 13ADH
    (e) Convert the following Binary numbers to their Hexadecimal equivalent. i) 11011.11 ii)
    11.1110101
    iii) 110000111111111
5. State one use of hexadecimal notation in a computer. (b) Convert 767_8 to hexadecimal. c. Use
    One's compliment to solve the following sums: i) $9_{10} - 6_{10}$ ii) $17_{10} - 15_{10}$ iii) $1110_2 - 1011_2$
    iv) $111010_2 - 110011_2$
6. Perform the following conversions: i) 20.216H to base 10.   ii) 11101_2 to Decimal.
7. Perform the following Binary arithmetic: $75_{10} + 45_{10}$ (b). Use Two's compliment to perform the
    following Binary subtraction: i) $10111_2 - 10001_2$ ii) $11000_2 - 10011_2$
8. Clearly differentiate between the following processing terms: i) Data collection and Data
capture. ii) Verification and Validation. (a) Give four methods of data collection. (b) Outline the
stages of data collection.
9. (a) Explain the relevance of the term Garbage in Garbage out (GIGO) in reference to errors in
    data processing. (b) Explain two main types of errors in data processing. (c) Name and explain
    the two types of transcription errors. (d) State three types of computational errors.
10. (a) Define the term *Data integrity* (b) State three ways of minimizing threats to data integrity.
    (a) Briefly explain the following data processing modes: i) Online processing. ii) Real-time
    processing. iii) Batch processing. iv) Distributed processing. v) Multi-programming (multi-
    tasking). vi) Multi-processing.