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D1BHM2203   (PAGES 2)   Reg.No..............................

                                                             Name: ....

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2022
HONOURS IN MATHEMATICS
GMAH1B04T: COMPUTER FUNDAMENTALS AND INTRODUCTION TO
PROGRAMMING

Time: 3 Hours   **Maximum Marks: 80**

PART A: Answer all the questions. Each carries 1 mark.

Choose the Correct Answer

1. Which of the following is the smallest unit of data in a computer?
   a) Bit   b) KB   c) Nibble   d) Byte
2. Which of the following is not an output device?

   a) Plotter   b) Scanner   c) Printer   d) Speaker

3. The addition 1+1 gives ……………as a result.

   a) 0   b) -1   c) 1   d) None of the above
4. Which one of the following is a string constant
   a) '3'   b) "hello"   c) 30   d) None
5. If c is initialized to 1, how many times following loop is executed
   While((c>0)&&(c<60))
   { c++; }
   a) 60   b) 59   c) 61   d)1

Fill in the Blanks

6. In Binary Coded System,the decimal number 81 is represented as _____.

7. _____ translates high level language into machine language

8. _____ defines the order of evaluation when operators have the same precedence

9. int a[10] will reserve _____ locations in the memory.

10. Pointer variable is declared using preceding with _____ sign

                                                             (10 x 1 = 10 Marks)

PART B: Answer any 8 questions. Each carries 2 marks

11. Define ALU.

12. How can you determine the value of each digit in a number system?

13. Subtract $(01010)_2$ from $(10000)_2$.

14. What is ASCII?

15. Define algorithm. Mention its features.

                                                             (PTO)

16. What is a variable?How are the variables declared in C?

17. Differentiate between break and continue.

18. Differentiate puts() and gets() function in C

19. What is the use of an indirection operator?

20. Define pointer array.

<div align="right">**(8 x 2 = 16 Marks)**</div>

PART C: Answer any 6 questions. Each carries 4 marks.

21. Give the difference between RAM and ROM.

22. Convert $(2AC)_{16}$ and $(562)_8$ into their binary equivalent.

23. State any three laws of Boolean Algebra.

24. List and explain important features of C language.

25. Give the differences between while and do-while statements.

26. How does nested if-else works? Explain with an example.

27. Write the syntax to initialize and declare a two dimensional array.

28. Write in detail about pointers to functions? Explain with an example program.

<div align="right">**(6 x 4 = 24 Marks)**</div>

PART D: Answer any 2 questions. Each carries 15 marks.

29. (a) Write an algorithm and flowchart to find whether the given number is prime or not.

    (b) Explain about type conversion in C.

    (c) Draw the flowchart to find the greatest of three numbers

29. What are function prototypes? Explain four different types of function prototypes with suitab'~ example programs

30. (a) What is a file? What are two main ways a file can be organized? Explain different file opening modes in detail?

    (b) Explain file input/ output operation with an example program.

<div align="right">**(2 x 15 = 30 Marks)**</div>