D1BHM2303 (PAGES 2) **Reg. No.....**

Name: .....

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

(Regular/Improvement/Supplementary)

HONOURS IN MATHEMATICS

GMAH1B04T: COMPUTER FUNDAMENTALS AND INTRODUCTION TO PROGRAMMING

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

PART A: Answer *all* the questions. Each carries *one* mark.
Choose the correct answer.

1. Which of the following is not an input device?
   a) Plotter. b) Scanner. c) Keyboard. d) Mouse.
2. The result obtained on binary multiplication of 1010 * 1100 is _____
   a) 0001111 b) 0011111 c) 1111100 d) 1111000
3. Among the following, which converts assembly language into machine language?
   a) Interpreter. b) Compiler. c) Assembler. d) Algorithm.
4. Which one of the following is known as the native language of computer?
   a) Programming language. b) High-level language.
   c) Machine language. d) Assembly language.
5. The size of char data type is _____
   a) 1 byte. b) 2 bytes. c) 4 bytes. d) 10 bytes.

Fill in the Blanks.

6. One Binary Coded Decimal requires _____ bits to store.
7. The _____ statement is used to skip the remaining part of the statements in a loop and continue with the next iteration.
8. Array subscripts in C starts from_____.
9. The keyword used to define a structure is _____.
10. Union can store _____ number of values at a time.

(10 x 1 = 10 Marks)

(PTO)

PART B: Answer any *eight* questions. Each carries *two* marks.

11. What are logic gates?
12. What is ASCII?
13. Write an algorithm to find the largest among two numbers.
14. Define flowchart and need for flowchart.
15. Distinguish between while and do-while statements.
16. Write the syntax for nested if and else-if ladder?
17. How do pointers differ from variables in C?
18. What is an Address operator?
19. What is the purpose of fopen() and fclose() functions in C?
20. Write about Sequential files.

(8 x 2 = 16 Marks)

PART C: Answer any *six* questions. Each carries *four* marks.

21. What is grey code? Explain the conversion of binary number to grey code with an example.
22. Write an algorithm to check whether the given year is a leap year or not.
23. What are escape sequences? What is its purpose? Give examples.
24. Describe call by reference parameter passing mechanism in C.
25. What are actual parameters and formal parameters? Illustrate with example.
26. Write a C program to read an array of n elements and print the largest value using pointers.
27. What are pointers? Explain with examples. Important operations possible on pointers.
28. Write a short note on: i. fgets() ii. fputs() iii. fseek() iv. ftell()

(6 x 4 = 24 Marks)

PART D: Answer any *two* questions. Each carries *fifteen* marks.

29. What is a number system? Explain the different types of number systems in detail with examples.
30. Explain important input and output functions in C.
31. Define string. How are strings declared and initialized? Explain various string manipulation functions with example programs.

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(2 x 15 = 30 Marks)