D1BHM2304 (S1) (PAGES 2) **Reg. No.....**

Name: .....

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

(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 question carries *one* mark.

1. Which of the following is a pictorial representation of an algorithm?
   (a) Program (b) Flowchart (c) Algorithm (d) Pseudo code
2. Which one of the following is a volatile memory?
   (a) RAM (c) ROM
   (b) Auxiliary memory (d) Secondary memory
3. Which one of the following is known as the language of computer?
   (a) Programming language (c) Machine language
   (b) High-level language (d) Assembly language
4. Which of the following operator is used to combine two or more relational expressions?
   (a) ^ (b) ~ (c) & (d) &&
5. The two different ways to implement a multiway selection in C are:
   (a) Simple if and if-else (b) if-else and nested if-else
   (c) else-if ladder and switch (d) None
6. If statement is a _____ statement.
7. int a[10] will reserve _____ locations in the memory.
8. A function can return only _____ value.
9. Address stored in pointer variable is of _____ type.
10. _____ function set the pointer position anywhere in the data file.

(10 × 1 = 10 Marks)

Part B. Answer any *eight* questions. Each question carries *two* marks.

11. State De-Morgan's laws.
12. Convert (243)10 to binary.

(PTO)

13. What are the symbols used in drawing the flowchart?
14. Differentiate between constants and variables.
15. How one dimensional array can be initialized?
16. Write the syntax of switch...case statement.
17. Differentiate between actual parameter and formal parameter used in functions.
18. Write various modes of fopen().
19. Differentiate between structure and union.
20. Draw the truth table for XOR gate.

(8 × 2 =16 Marks)

Part C. Answer any *six* questions. Each question carries *four* marks.

21. How to access array of pointers? Explain with suitable example.
22. Explain different types of memory.
23. Write the structure of C programming.
24. Explain parameter passing mechanisms in functions.
25. Explain any four string handling functions used in C.
26. Write a program to swap two numbers using function.
27. Write the general format for declaring, opening and closing a file.
28. Explain pointers to pointers with example.

(6 × 4 = 24 Marks)

Part D. Answer any *two* questions. Each carries *fifteen* marks.

29. Explain in detail about operators in C.
30. Discuss various loop control statements available in C with suitable example.
31. Describe the number system in detail.

(2 × 15 = 30 Marks)