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(FOR THE CANDIDATES ADMITTED **24UDA101**

DURING THE ACADEMIC YEAR 20 ONLY) REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS :NOVEMBER-2024

BSC CS WITH DA **MAXIMUM MARKS: 75**

SEMESTER: I **TIME : 3 HOURS**

PART - III

24UDA101 – PROGRAMMING IN C

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1. Identify the correct way to declare a variable of type float in C._____

a) Float x; b) float x; c) x float; d) x: float

2.Choose the correct use of the pre-increment operator?_____

a) x++ b) ++x c) x +1 d) x+=1

3.How is a one-dimensional array declared in C?_____.

a) datatype arrayname[size]; b) arrayname[size] datatype;

c) datatype[size] arrayname; d) [size] datatype arrayname;

4.Identify the correct syntax for declaring a function in C_____.

a) function_name (parameter list); b) return_typefunction_name (parameter list);

c) function_name (return_type) parameter list; d) (parameter list) function_namereturn_type;

5.Choose the valid pointer declaration in C_____.

a) int *ptr; b) ptr int; c) int ptr; d) *int ptr;

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6.What is the default storage class for local variables in C?

7.What data type does a relational expression return in C?

8.How is the end of a case section typically marked in a switch statement?

9.What is the main advantage of using a union over a struct?

10.What is the purpose of the feof() function?

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K3)

11. a)Design a flowchart to find the largest among the three numbers entered by the user.

(OR)

b)Write a C code snippet that defines a symbolic constant PI with the value 3.14159 and uses it to calculate the area of a circle with radius 5.

12. a)Illustrate the use of the bitwise operator in C programming with a suitable example.

(OR)

b)Write a C program that uses scanf() to read an integer, a float, and a character from the user, then uses printf() to display them in a formatted manner.

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13. a)Create a C program that uses nested if-else statements to categorize a person's age group (child, teenager, adult, or senior).

(OR)

b)Write a C function to reverse the elements of a given one-dimensional array.

14. a)Demonstrate how to declare a string variable and initialize it with an empty string.

(OR)

b)Write a C program that defines a user-defined function to calculate the factorial of a given number.

15. a)Write a C program to swap the values of two variables using pointers.

(OR)

b)Demonstrate the different modes of opening a file in a C program with examples.

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)

16. a)Analyze the components of a basic C program structure and explain the role of each part with an example program.

(OR)

b) Examine how a C program follows a specific execution flow from preprocessing to termination. Provide an example to explain each stage.

17. a)Analyze the differencesbetween pre-increment and post-increment operators in C. How do these operators affect the execution of expressions? Provide examples to explain your answer.

(OR)

b)Compare the scanf() and getchar() functions for reading a character in C. Write a program that uses both functions to read and display a character, and discuss the differences between them in terms of usage and behavior.

18. a)Analyse how the `if-else` construct in C handles multiple conditions. Write a C program that determines a student's grade based on their score using `if-else if` statements.

(OR)

b)Compare the working of for, while, and do-while loops in C by implementing a program to print the first 10 natural numbers using each type of loop.

19. a)Evaluate the advantages and limitations of recursion over iteration in user-defined functions.

(OR)

b)Analyze the impact of passing structures by value vs. by reference in function calls through suitable examples.

20. a)Evaluate the advantages and disadvantages of using arrays of pointers over two-dimensional arrays in C using suitable examples.

(OR)

b)Create a C program to copy the contents of one file to another file using file I/O operations.

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