Reg. No …… Name ……. **25UFYG133**

BA BSC BCOM BCA DEGREE END SEMESTER EXAMINATION - NOVEMBER 2025

UGP(HONS.) SEMESTER - I : DISCIPLINE SPECIFIC COURSE

COURSE: 24UCAPDSC101 / 24UBCASEC101 – PROGRAMMING IN C

(For Regular 2025 Admission & Improvement/ Supplementary 2024 Admission)

Time : 1.5 Hours **Max. Marks : 50**

PART - A

Answer any 5 Questions. **(5 x 2 = 10)**

1. Predict the output of the following code: (A,CO1)

```
#include <stdio.h>
int main() {
   int a = 3, b = 4, c = 5;
   int result;
   printf(“%d\n”, a&b);
   result = (a > b) ? a = b + c : b = a + c;
   printf("%d,%d,%d,%d\n", result, a, b, c);
   return 0;
}
```

2. Explain the difference between a variable and a constant in C with one suitable example each. (U,CO1)

3. Explain the difference between `if-else` and `switch` statements. (U,CO2)

4. Write a program to calculate the sum of the first 10 natural numbers using a `for` loop. (A,CO2)

5. Differentiate between global and local variables with an example. (U,CO3)

6. Write a C program to reverse a string without using library functions. (A, CO3)

7. Explain the use of `fprintf()` with an example. (U,CO4)

PART - B

Answer any 4 Questions. **(4 x 5 = 20)**

8.	Explain the role of preprocessors in C with suitable examples.	(U,CO1)
9.	Analyze the role of `break` and `continue` statements in loop execution.	(An,CO2)
10.	Write a program to input 5 integers into an array and print their average.	(A,CO2)
11.	Write a C function to compute the Greatest Common Divisor (GCD) of two integers.	(A,CO3)
12.	Evaluate the advantages of using recursion over iteration with one example.	(E,CO3)
13.	Compare `typedef` with `#define` when used for defining data types.	(An,CO4)

PART - C

Answer any 2 Questions. **(2 x 10 =20)**

14.	Write a program to perform matrix addition. Explain how 2D arrays are stored in memory.	(A,CO2)
15.	Write a program to calculate the power of a number using recursion. Explain how recursive calls are executed step by step.	(A,CO3)
16.	Write a program using `struct` to store details of books (Title, Author, Price) and display them. Explain why structures are useful in such applications.	(A,CO4)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Marks.
CO1	Interpret the fundamental concepts like datatype, tokens, operators, expression and evaluate an expression	U	1,2,8	9
CO2	Develop C programs that interact with users, make decisions, repeat tasks, manage data in arrays.	A	3,4,9,10,14	24
CO3	Develop C programs using functions, strings, pointers.	A	5,6,11,12,15	24
CO4	Create a C program using the user defined data structure, file handling.	A	7,13,16	17

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;