

JAMIA HAMDARD
Department of Computer Science & Engineering
School of Engineering Sciences & Technology
New Delhi-110062

Odd Semester Examination 2024

Paper Name: Introduction to C Programming
Time: 2.5 Hours

Paper Code BCA/ B.Sc 101
Maximum Marks: 60

Section A

Q.NO	Questions	Marks	CO
1	Which of the following is not a valid data type in C? a) int b) char c) string d) boolean	1	CO1
2	What is the correct format specifier for printing a float value in C? a) %c b) %f c) %d d) %s	1	CO1
3	Which storage class makes a variable accessible throughout the entire program? a) auto b) extern c) register d) static	1	CO1
4	What is the correct syntax for a function prototype in C? a) void func(); b) func void(); c) void; func() d) None of the above	1	CO1
5	How many bytes are typically allocated for the int data type in C on a 32-bit system? a) 2 b) 4 c) 8 d) 16	1	CO1
6	Which operator is used for bitwise OR in C? a) & b) c) d) &&	1	CO1
7	Which loop structure is best suited for an unknown number of iterations? a) for b) while c) do-while d) None of the above	1	CO1
8	What does the fopen function return if it fails to open a file? a) 0 b) NULL c) EOF d) None of the above	1	CO1
9	What is the value of the expression (10 > 5) ? 20 : 15 in C? a) 10 b) 20 c) 15 d) None of the above	1	CO1
10	Which of the following functions is used to deallocate memory in C? a) malloc() b) free() c) calloc() d) realloc()	1	CO1
11	A header file in C typically contains function declarations (True/False)	1	CO1
12	The _____ function is used to position the file pointer at the beginning of a file.	1	CO1
13	What is the purpose of a typedef in C? a) To create aliases for existing data types b) To define functions c) To allocate memory dynamically	1	CO1
14	Which of the following is true about function pointers? a) They can be used to point to functions b) They cannot return values c) They must point to static functions d) None of the above	1	CO1

15	What is the output of the following code? <code>int a = 10; printf("%d", --a);</code> a) 10 b) 9 c) Compilation error d) None of the above	1	CO1
16	Which operator is used for bitwise XOR in C? a) ^ b) c) & d) &&	1	CO1
17	Which of the following statements about dynamic memory allocation is true? a) <code>malloc()</code> initializes allocated memory to zero b) <code>calloc()</code> initializes allocated memory to zero c) <code>realloc()</code> frees memory d) None of the above	1	CO1
18	The _____ statement is used to immediately exit a loop.	1	CO1
19	How do you declare a two-dimensional array in C? a) <code>int arr[][];</code> b) <code>int arr[10][10];</code> c) <code>array arr[10][10];</code> d) None of the above	1	CO1
20	Comments in C are enclosed within <code>/* */</code> or start with <code>//</code> . (True/False)	1	CO1

Section B

Note: Attempt any four (4) Questions out of SIX (4x5=20)

Q.No	Question	Marks	CO	BL
1	Explain the difference between call by value and call by reference with examples	5	CO2	1
2	Write a program to calculate the Fibonacci series using recursion.	5	CO3	6
3	Write a program to convert binary to decimal	5	CO4	2
4	Draw a flowchart to calculate the sum of the digits of a number.	5	CO1	2
5	Write a program to reverse a string without using a built-in function.	5	CO3	1
6	Write short notes on a) Compiler b) Interpreter	5	CO2	3

Section C

Note: Attempt any TWO(2) Questions out of FOUR (2x10=20)

Q.No	Question	Marks	CO	BL
1	Write a program to demonstrate the use of structures and unions in C with examples.	10	CO5	3
2	Write a C program to multiply two matrices.	10	CO4	6
3	a) What is the use of break and continue statements? Explain with programming examples for each. b) Write a program to print the number of days in a month using switch case	10	CO3	6
4	Write an explanatory note on FILE with one programming example.	10	CO1	3

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Q.NO	Questions	Marks	CO
1	Which of the following is a valid C keyword? a) integer b) float c) real d) number	1	CO1
2	What is the purpose of the return statement in C? a) To end a program b) To exit a function and optionally return a value c) To start a loop d) None of the above	1	CO1
3	In a for loop, which part is executed first? a) Initialization b) Condition c) Increment/Decrement d) None of the above	1	CO1
4	What is the correct syntax for declaring a pointer in C? a) int ptr*; b) int *ptr; c) *int ptr; d) int ptr;	1	CO1
5	How many bytes are typically allocated for the char data type in C? a) 1 b) 2 c) 4 d) 8	1	CO1
6	Which of the following operators is used to access a structure member? a) . b) -> c) Both a and b d) None of the above	1	CO1
7	Which of the following loops guarantees execution at least once? a) for b) while c) do-while d) None of the above	1	CO1
8	Which of the following is not a file mode in C? a) r+ b) w+ c) rw d) a+	1	CO1
9	What is the output of the expression 5 % 2 in C? a) 2 b) 1 c) 0 d) 5	1	CO1
10	Which of the following is used to allocate memory dynamically? a) malloc() b) scanf() c) printf() d) return	1	CO1
11	Flowcharts are used to visually represent the logic of a program. (True/False)	1	CO1
12	The _____ function is used to create or open a file in C.	1	CO1
13	What is a union in C? a) A data type storing multiple variables of the same type b) A data type storing only one value at a time from different types	1	CO1

	c) A type of function d) None of the above		
14	Which of the following is true about recursion? a) It uses a loop to solve problems b) It calls itself to solve smaller instances of the problem c) It does not require a base condition d) None of the above	1	CO1
15	What is the output of the following code? <code>int x = 5; printf("%d", x++);</code> a) 5 b) 6 c) Compilation error d) None of the above	1	CO1
16	Which operator is used for bitwise AND in C? a) && b) & c) d)	1	CO1
17	What is the default value of an uninitialized variable in C? a) 0 b) Garbage value c) NULL d) None of the above	1	CO1
18	The _____ statement is used to skip the rest of the loop iteration and proceed to the next iteration.	1	CO1
19	How do you declare an array of 10 integers in C? a) <code>int arr[10];</code> b) <code>array int[10];</code> c) <code>int arr();</code> d) <code>array arr(10);</code>	1	CO1
20	Strings in C are terminated with a null character (<code>\0</code>). (True/False)	1	CO1

Section B

Note: Attempt any four (4) Questions out of SIX (4x5=20)

Q.No	Question	Marks	CO	BL
1	Explain for and do-while loops with examples.	5	CO2	1
2	Write a program to find the factorial of a number using recursion.	5	CO3	6
3	Explain the purpose and usage of pointers in C with example.	5	CO4	2
4	Draw a flowchart to find the largest of three numbers	5	CO1	2
5	Write a program to copy a string without using in-build function	5	CO3	1
6	Write a program to convert a decimal number to binary	5	CO2	3

Section C

Note: Attempt any TWO(2) Questions out of FOUR (2x10=20)

Q.No	Question	Marks	CO	BL
1	Write a program to create and store information in a text file	10	CO5	3
2	Create a program to demonstrate the use of structures to store and display information of 5 students (name, roll number, marks).	10	CO4	6
3	Write a C program to perform matrix addition.	10	CO3	6
4	Write a program to generate and display all prime numbers between two given numbers using a function.	10	CO1	3