Sl No	Question	Marks	Module
1	Translator which is used to convert codes of assembly language into machine language is termed as Assembler.	1	1
2	Diagram which shows relationship between classes is termed as class diagram — Unified modeling language.	1	1
3	Higher-order functions are not built into the procedural languages.	1	1
4	Animations and interactivity with user on web pages can be done by Javascript.	1	1
5	Diagram which shows how objects communicate with each other regarding a sequence of messages is called _____.	1	1
6	Programming language which sometimes called 'write once, run any where is JAVA.	1	1
7	Language in which single statements can be written to accomplish substantial tasks is termed as High level languages.	1	1
8	At Ericson, UML was developed by Grady. Booch, Ivar Jacobs	1	1
9	Programming language which uses both object-oriented programming and functional programming paradigms is Multiparadigm Programming Language. → LISP, Scala.	1	1
10	Law which states that every year or two, capacities of computers have approximately doubled without any increase in price is Moore's law.	1	1
31	What is a flowchart?	1	2
32	What is pseudo code?	1	2
33	What is the output of an assembler?	1	2
34	What is compiler?	1	2
296	What are the key features in the C programming language?	1	2
297	What are the basic data types associated with C?	1	2
298	What is the description for syntax errors?	1	2
299	What is the process to create increment and decrement stamen in C?	1	2
300	What are reserved words with a programming language?	1	2
301	What is the explanation for the dangling pointer in C?	1	2
302	Describe static function with its usage?	1	2
55	What is the role of %ld in printf()?	1	3
56	How many keywords are there in C language?	1	3
57	Can variable name may contain any special symbol in C language?	1	3
58	Which keyword helps to define a constant?	1	3
59	What is the precision of float data type?	1	3
60	What sizeof(int) will return?	1	3
61	How many types of constants are there in C language?	1	3
62	Write an example of user-defined data type.	1	3
63	What is the size of char data type?	1	4
83	What is the operator symbol of logical AND in C language?	1	4
84	x = (5 > 2 < 3 > 8) ? 15 : (8 && 1 > 2) ? 20 : 35 What is the value of x?	1	4
85	Write an example of unary operator.	1	4
86	a=0||5&&-5, what is the value of a?	1	4
87	What is the operator symbol of bitwise OR operator?	1	4

88	int i=4, j=8;
	printf("%d", i^j||i);
	What will be the output?
		1	4

89	a=2+6/2-5, what is the value of a?	1	4
90	x=5&6, what is the value of x?	1	4
91	What is the operator symbol of ternary operator?	1	4
92	int c = 2 ^ 3; what is the value of c?	1	4
118	Which data type is not accepted as case value in switch?	1	5
119	Is default mandatory in switch case in C language?	1	5
120	Is goto is a function or keyword?	1	5
121	Does else or else if is optional with if statement in C language?	1	5
122	Can we have if statement without mentioning condition in C?	1	5
123	Can we have only else statement with condition in C?	1	5
124	Is giving multiple conditions in if statement is allowed in C language?	1	5
125	Is it mandatory to put break in default case of switch in C?	1	5
126	Is compound statement allowed in switch case in C?	1	5
127	How many variables can be tested in switch case?	1	5
143	How many semicolons must be there in for loop?	1	6
144	Name one exit controlled loop in C.	1	6
145	How many times conditions are checked atleast in do-while loop?	1	6
146	Write a loop statement to represent infinite loop.	1	6
147	Write a loop statement to represent infinite loop.	1	6
148	Name one entry controlled loop in C.	1	6
149	How many initializations is possible inside for loop?	1	6
150	What will happen if you run for(;;)?	1	6
151	What will happen if you run for(;;)?	1	6
152	What will happen if you put ; after for loop?	1	6
153	What is meant by exit(0)?	1	6
174	Can you store dissimilar data type in an array?	1	7
175	What is the default initialization of array elements?	1	7
176	What is end of string character in C?	1	7
177	How many parameters are accepted by gets function?	1	7
178	What strlen() returns?	1	7
179	Write the declaration syntax of 2D array.	1	7
180	What is the beginning index value of an array?	1	7
181	By which function we can copy a string into another?	1	7
182	What is the output of strlen("abc def")?	1	7
183	By which function we can concatenate a string into another?	1	7
204	Which type of function call may generate in out of memory issue?	1	8
205	Is stack required to store all automatic variables in recursive function call?	1	8
206	What is the name of the in-built function to calculate power of a number?	1	8
207	Which return type is used to represent nothing is returned from function call?	1	8
208	"The body of a function should have only one return statement"-is it true?	1	8
209	"It is not advisable to use macros instead of functions because no type checking is done" is it true?	1	8
210	Does recursion saves return address?	1	8
211	Is recursive function call based on base condition or not?	1	8

212	"Every iterative method can be converted into recursive version" is it true?	1	8
213	Is recursion efficient than iteration?	1	8
234	Which type of variable can store address of another variable?	1	9
235	What is the format specifier in printf() used to show address stored in pointer variable in hexadecimal format?	1	9
236	Which header file store standard input-output function prototype?	1	9
237	Which header file store standard string function prototype?	1	9
238	What is constant pointer?	1	9
239	Which header file store standard mathematical function prototype?	1	9
240	Which header file store console input-output function prototype?	1	9
241	What is NULL pointer?	1	9
242	Is the following declaration of pointer to pointer is correct? int a; int *b,*c; b=&a; c=&b;	1	9
243	Pointer provides indirect memory access"-is it true or false?	1	9
264	Which phase of compiler is Syntax Analysis	1	10
265	What is Syntax Analyser also known as	1	10
266	Syntax Analyser takes Groups Tokens of source Program Into Grammatical Production	1	10
267	From where it take its input from?	1	10
268	Parsers are expected to parse the whole code	1	10
269	A grammar for a programming language is a formal description of	1	10
270	Which of these features of assembler are Machine-Dependent	1	10
271	A compiler can check?	1	10
272	The fourth Generation computer was made up of?	1	10
273	Select a Machine Independent phase of the compiler	1	10
11	Describe lexeme, pattern and token with example.	5	1
12	Explain the working principle of Lexical Analyzer.	5	1
13	Describe the three major families of language.	5	1
14	Discuss about regular expression	5	1
15	Give the parse tree of a following statement: A = (B+C) * (D / E).	5	1
16	Describe differences between Top-Down and Bottom-Up Parsers.	5	1

17	What are the main features of the programming paradigm with examples?	5	1
18	Discuss about the features of Logic Programming	5	1
19	Define syntax and semantics of a language with example.	5	1
20	Explain the differences between Machine Language and Assembly Language.	5	1
21	Discuss the evolution of Object Oriented Language with reference to languages evolved	5	1
22	Discuss the disadvantages of Procedural Language in comparison to Object Oriented Language.	5	1
23	Name some object oriented languages with their advantages.	5	1
24	Explain the working principle of Syntax Analyzer.	5	1
294	Give the parse tree of a following statement: B = C * (A * C + B)	5	1
25	Explain the difference in the working principle of Interpreter and Compiler.	5	2
35	Write down the characteristics of algorithm.	5	2
36	Write an algorithm to find sum of digits of a number	5	2
37	Draw a flowchart to check whether a given number is palindrome or not.	5	2
38	Describe different symbols used in a flowchart with a suitable example.	5	2
39	Write an algorithm to find the factorial of a number.	5	2
40	Write an algorithm to calculate the simple interest.	5	2
41	Discuss time complexity of an algorithm with example.	5	2
42	Draw a flowchart to find largest among three numbers.	5	2
43	Write an algorithm to calculate the series 1+2+3+4+……+n.	5	2
44	Discuss space complexity of an algorithm with example.	5	2
45	Draw a flowchart to generate first n Fibonacci terms	5	2
46	Compare and contrast high level and low level language.	5	2
47	Differentiate between assembler and compiler.	5	2
48	Discuss the process of compiling and running a C program.	5	2
49	Write down the features of structured programming.	5	2
64	How constants are defined in C language?	5	3
65	Explain type casting with example.	5	3
66	Discuss storage classes in C.	5	3
67	State the rules to construct variable in C.	5	3
68	Discuss in brief about different data types in C programming language with example.	5	3
69	Differentiate between local and global variable in C.	5	3
70	Compare automatic and external variable in C.	5	3
71	Write a C program to convert temperature from centigrade to Fahrenheit.	5	3
72	Write a C program to illustrate the declaration, assignment and initialization of variable.	5	3
73	Differentiate between register and automatic variable.	5	3
74	Discuss how to print a string on console with an example.	5	3
75	Discuss how to read user input from keyboard in C programming.	5	3
76	Discuss different format specifiers of printf() in C.	5	3

77	Write in brief about how scanf() can read different input data type.	5	3
93	Write a short note on logical operator.	5	4
94	Write a C program to swap between two numbers using bitwise operator.	5	4

95	Explain the output of the following code:
	#include<stdio.h>
	int main()
	{
	int i=4;
	int x;
	x=(++i + ++i)+ ++i)+ ++i)+ ++i;
	printf("%d",x);
	return 0;
	}
	36.
	5+5+12=12.
	12+5=19
	19+5=24+3=27.
	27+5=32+4=36.
		5	4

96	Write a C program to find out greatest between two numbers using ternary operator.	5	4
97	Write in brief about operator precedence with example.	5	4
98	Discuss in brief about relational operators.	5	4
99	Discuss pre and post increment and decrement operator in C with example.	5	4
100	Write the purpose of +=, <<=,>>=,&=,^= operators.	5	4
101	Write a C program to check whether a given number is even or odd using conditional operator.	5	4
102	Evaluate x1=(-b+ sqrt (b*b-4*a*c))/(2*a) with these respective values a=1, b=-5, c=6.	5	4

103	Explain the output of the following code:-
	#include<stdio.h>
	int main()
	{
	int a = 2, b = 2, c = 0, d = 2, m;
	m = a++ && b++ && c++ || d++;
	printf("%d %d %d %d %d",a, b, c, d, m);
	return 0;
	}
	3, 3, 1, 3.
		5	4

104	Explain the output:-
	#include<stdio.h>
	int main()
	{
	int a = 1, b = 3, c;
	c = b << a;
	b = c * (b * (++a)--);
	a = a >> b;
	printf("%d",b);
	return 0;
	}
	Error
		5	4

105	Write a C program to detect if two integers have opposite sign using Ex-OR operator.	5	4
106	Discuss shift operators in C with example.	5	4
107	Discuss fundamental differences between logical and bitwise operator in C.	5	4

128	Write a C program to check if a temperature is freezing or below freezing.	5	5
129	Write a C program to check whether an entered character is a digit, alphabets or special character	5	5
130	What are the advantages of switch case in C language?	5	5
131	Do you have the facility of multiple way branching in C? If so, how? Explain your answer with an example.	5	5
132	Compare, switch case and nested if-else statement with examples.	5	5
133	Write a C program to count different denomination (note of 2000, 500, 200, 100, 50, 20, 10) for a given amount of money.	5	5
134	Draw the flowchart of nested if-else and if-else ladder statement.	5	5
135	Write a C program to build a calculator using switch in C.	5	5
136	Explain nested switch statement in C	5	5
137	Write in brief about use of break keyword in switch.	5	5
138	What are the properties of if statement in C?	5	5
139	Why decision making is important in programming construct?	5	5
140	Write a C program to check is a year is leap year or not.	5	5
141	Write a C program to compare between two numbers.	5	5
142	Explain in brief with suitable example how if statement functions.	5	5
154	What is the difference between break and continue?	5	6
155	Write a C program to add the following series:- 1+2/2!+3/3!+4/4!+.....+n/n! , where value of n is given by user.	5	6
156	Write a C program to convert a binary number to its equivalent decimal number.	5	6
157	Write a program to check whether a given number is Krishna Murthy number or not. It's a number which is equal to the sum of the factorials of all digits. E.g. 145=1!+4!+5!	5	6
158	Differentiate between while loop, do while loop and for loop.	5	6
159	Write a C program to print sum of the following series of n terms:- 1+(1+2)+(1+2+3)+.....	5	6
160	Write a C program to find the LCM of two integer numbers.	5	6
161	Write a program to print sum of three digits prime numbers.	5	6
162	Write a C program which will accept an integer number and print it removing the even digits,e,g, input:- 54327 output:- 537.	5	6
163	Write a C program to find factorial of a given integer.	5	6
164	Write a C program to print integers from 1 to n omitting those integers which are divisible by 10.	5	6
165	Write a C program to print the Fibonacci sequence of n numbers.	5	6
166	Write a C program to reverse an integer number, subtract 9 from it and print the result.	5	6
167	Write a C program which will take an M-digit number. Print its digit one by one (LSB first). Reverse a number.	5	6
168	Write a C program to print natural numbers from 1 to n.	5	6
184	Write a C program to reverse a string given as user input.	5	7
185	Define array. Explain different types of array in detail.	5	7
186	Write a C program to arrange a group of numbers into positive and negative numbers.	5	7
187	Write a C program to search an element in an array.	5	7
188	Write a C program to count the frequency of each number in an array.	5	7

189	What are the advantages and disadvantages of an array in C?	5	7
190	Write in brief about a 2D array declaration and initialization.	5	7
191	Discuss about 1D array declaration and initialization.	5	7
192	Write a program to interchange the largest and smallest numbers in the array.	5	7
193	Write down a C program that will find out the maximum of the given set of n numbers taken in an array.	5	7
194	Write a program which will check if a string is palindrome or not.	5	7
195	Write a C program to count the number of vowels present in an input string.	5	7
196	Write a C program to calculate sum and average of array elements having integer values.	5	7
197	Write a C program to take 10 integer values from user and display them in reverse order.	5	7
198	Write down program in C that will accept a string from the user and print the frequency of each characters of the string entered.	5	7
214	Explain the differences between call by value and call by reference with example.	5	8
215	What are the advantages of using functions?	5	8
216	What is the difference between user-defined and library function?	5	8
217	What is the difference between recursion and iteration?	5	8
218	What are local variable and global variable? Explain with example.	5	8
219	What are local variable and global variable? Explain with example.	5	8
220	State and explain different phases used in user defined function.	5	8
221	When is it necessary to declare prototype of a function?	5	8
222	What is the purpose of main function?	5	8
223	What do you mean by recursion? What is the advantage of recursion?	5	8
224	Write a recursive function that will generate and print first n Fibonacci numbers.	5	8
225	Write in brief about actual and formal arguments in function.	5	8
226	Write a function to print the sum of the even numbers from 1 to n.	5	8
227	is printf a function? If yes, then what does it return?	5	8
228	Discuss the return type of scanf() function call.	5	8

295	Evaluate the output and explain the outcome.
	Output - 1 2 3 3 3 3 3 .
	`#include<stdio.h>`
	`int fun(int count)`
	`{`
	`  printf("%d ", count);`
	`  if(count < 3)`
	`  {`
	`  fun(fun(fun(++count)));`
	`  }`
	`  return count;`
	`}`
	`int main()`
	`{`
	`  fun(1);`
	`  return 0;`
	`}`
		5	8

244	) Discuss the importance of header file.	5	9
245	Discuss different header files in C.	5	9
246	How an array can be accessed using pointer?	5	9
247	Differentiate between array of pointer and pointer to an array	5	9

248	Define pointer with example.	5	9
249	What are the advantages of using a pointer?	5	9
250	Discuss declaration syntax of pointer with example.	5	9
251	Why is it desirable to pass pointer to a variable as function parameter than variable?	5	9
252	Explain pointer to structure with example.	5	9
253	Write in brief about pointer arithmetic.	5	9
254	Write a C program to add two number using pointers.	5	9
255	Write a C program to create, initialize and use pointers.	5	9
256	Differentiate between header file and library file.	5	9
257	Write a C program to calculate length of a string using pointer.	5	9
258	Write a C program to concatenate a string into another using pointer.	5	9
274	What do you mean by syntax and semantics? Explain with example.	5	10
275	What are recognizers and generators? Explain with example.	5	10
276	Discuss Back Naur Form with example.	5	10
277	Discuss Context Free Grammar with example.	5	10
278	Discuss the classes of grammars given by Noam Chomsky.	5	10
279	Explain the utility of a parse tree with example.	5	10
280	What do you mean by ambiguity in grammars?	5	10
281	Discuss extended Back Naur Form .	5	10
282	Give a brief comparison between BNF and EBNF.	5	10
283	What is static semantics? Discuss.	5	10
284	What is attribute grammar? Discuss	5	10
285	What is operational semantic? Discuss.	5	10

286	Write a program to implement the following pattern * ** *** **** *****	5	10
287	What is denotational semantic? Discuss.	5	10
288	Discuss axiomatic semantic with example	5	10
26	A. Discuss the data hierarchy and their mode of operations with example. (7) B. Discuss the problem solving techniques and principles in details. (8)	15	1
27	A. Compare the execution time of interpreter and compiler using an example. (7) B. Write a short note on Hybrid Compilers. (8)	15	1
28	Discuss the different phases of compilers in details	15	1
29	Discuss the evolution of object oriented languages through different requirements.	15	1
30	Discuss the features of modular programming with example.	15	1
50	i) Write an algorithm to check whether a given number is prime or not and also draw the flowchart for the same. ii) Write an algorithm to find sum of series 1+3+5+.....+N, Where N is positive odd Integer. (8+7)	15	2
51	i) Discuss pseudo code with an example. ii) Discuss importance of C programming language. iii) Compare compiled and interpreted language with example. (5+5+5)	15	2
52	i) Compare machine level language, assembly level language and high level language. ii) Write an algorithm and draw flowchart to find reverse of a number. (8+7)	15	2
53	i) Write an algorithm and draw flowchart to check whether a given number is Armstrong or not. ii) Write an algorithm and draw flowchart to swap between two numbers without using third variable. (8+7)	15	2
54	i) Write an algorithm and draw flowchart to convert days into years, weeks and days. ii) "A typical programming task is divided into problem solving and implementation phase"-justify. (8+7)	15	2

a=10, b=20.
a = a+b; a=30 (10+20)
b = a-b; b=10 (30-20)

a=a-b; a=20(30-10).

78	i) Differentiate between int and unsigned int. ii) Discuss requirements of int and long int. iii) Differentiate between float and double data type. (5+5+5)	15	3
79	i) Discuss in brief about basic data type in C with example. ii) What do you mean by derived data type in C programming-discuss with example. (8+7)	15	3
80	Write in short about these character testing functions with example:- isdigit(), islower(), isupper(), toupper(), tolower().	15	3
81	i) How printf and scanf function works in C internally? ii) Discuss the return type of printf and scanf in C? (8+7)	15	3
82	i) Discuss the difference between %s and %c specifier in printf and scanf in C. ii) Write in short about different escape sequences in C language. (7+8)	15	3
108	i) Write a C program to check if a number is even or odd using bitwise operator. ii) Evaluate following two expressions:- a) x=5&&-5||0&&4^7 b) x= a++ && b++ && c++ || ++d; (a=4, b=1, c=4, d=9) (5+10)	15	4
109	i) What is an expression? ii) What are the operators used in C write in brief. iii) What is mixed mode operation and automatic conversion? (4+6+5)	15	4
110	i) Write in brief about operator associativity. ii) Discuss arithmetic operators in C. iii) Write a short note on assignment operators in C. (5+5+5)	15	4
111	i) Explain BODMAS rule in C language. ii) Explain the rules for evaluation of expression in C. (7+8)	15	4
112	Find the value of these 5 different expressions:- a) -3+4*5-6; b) 3+(4%5)-6; c) -3*4%-6/5; d) (7+6)%5/2; e) (8/2)%5-5*7	15	4
113	i) Write a program to find roots of a quadratic equation. ii) Write a C program to check if a character is uppercase or lowercase. (8+7)	15	5
114	i) Write a C program to check if an entered character is vowel or consonant. ii) What are the rules of switch statement in C? (8+7)	15	5

115	i) Draw the flowchart of switch case. ii) Write a C program to calculate electric bill amount using following conditions: - if amount is within 800 then no tax required. If amount is more than or equal to 800 but less than 1200 then 10 %(on bill amt.) of tax will be added to the amount. If amount is more than or equal to 1200 but less than 2000 then 15 %(on bill amt.) of tax will be added to the amount. If amount is more than 1999 then 22% of tax will be charged. (7+8)	15	5
116	i) Write a C program to take total marks of a student & determine his/her division using following conditions: - if marks is >=600 then 1st divisions or if marks <600 but marks>=450 then 2nd division or marks<450 but marks>=300 then 3rd divisions, otherwise fail. ii) Compare nested if-else and if-else ladder statement. (8+7)	15	5
117	i) Write a C program to read month number from user and print total number of days in input month using switch. ii) Explain forward and backward jump using goto statement in C. (7+8)	15	5
169	i) Explain different types of loops available in C with suitable examples. ii) Write a C program to find the GCD of two integer numbers. (8+7)	15	6
170	i) Write a program to print the following pattern: 1 1 0 1 0 1 ii) Write a C program to convert Arabic numbers upto 999 to Roman, for example, 26 becomes XXVI, 41 becomes XLI. Take I=1, V=5, X=10, L=50, C=100 and D=500. (7+8)	15	6
171	i) Write a C program to check if a number is Armstrong number or not. ii) Write a C program to print the sum of the following series: $1+4+9+16+25.....+n^2$(7+8)	15	6
172	i) Write a C program to print the series as given alongwith the sum:-1-2+3-4+5-.....n. ii) Write a short note on goto and continue. (8+7)	15	6
173	Write a C program to check if a number is perfect number or not (divisor of 6=1,2,3; 1+2+3=6). ii) Write a C program to print all factors of a number. (8+7)	15	6
199	Write in brief about strcpy(), strcat(), strrev(), strcmp(), strlen() functions with examples.	15	7
200	Write a C program to take a name from user and abbreviate it in following way:- Sumit Kumar Senà S.K.S.	15	7

201	i) Write a C program to find out second maximum and second minimum from an input array of 10 integers. ii) Write a C program to copy one string into another without using built-in function. (8+7)	15	7
202	i) Discuss and explain memory allocation of array with proper diagram. ii) Write a C program to find out the union between two array elements. (7+8)	15	7
203	i) Write a C program that will scan a character string passed and convert all lowercase characters into their uppercase. ii) Write a C program or an algorithm to check if an array contains duplicate elements. (7+8)	15	7
229	i) State and explain various types of user-defined function with example. ii) Write down the advantages of macro over function. (9+6)	15	8
230	i) Write a C program to swap between two numbers using call by reference. ii) Write a C program to show how an array can be passed to a function as parameter. (8+7)	15	8
231	i) Write a recursive function called power() to calculate x rise to the power n. ii) Discuss direct and indirect recursion with example. (7+8)	15	8
232	i) Write a recursive function for GCD calculation. ii) Write C programs to implement mathematical operations like add, subtract, multiply, division using different functions. (7+8)	15	8
233	i) Write a C program to pass an array and search element to a function and output if the element is present in that array or not. (7+8) ii) Write a C program to find sum of array elements using recursion. (7+8)	15	8
259	i) Write a C program to copy a string into another using pointer. ii) Explain in brief about pointer to pointer concept. (8+7)	15	9
260	i) Write a C program to search an element in array using pointers. ii) Write a C program to find reverse of a string using pointers. (7+8)	15	9
261	i) Explain in brief about pointer to a function concept. ii) Write a C program to add two matrix using pointers. (7+8)	15	9
262	i) Write in brief about features of pointer. ii) What are the disadvantages of pointer, explain in brief. iii) Write a C program to read array elements and print with addresses. (4+4+7)	15	9
263	i) Write a C program to count vowels and consonants in a string using pointer. ii) Write a C program to modify value stored in other variable using pointer in C. (7+8)	15	9

289	A. What Is Meant By Symbolic Expression In Lisp? B. What Is Meant By Keyword Argument In Lisp? C. Mention and discuss the Three Functions Required By Lisp? (5+5+5)	15	10
290	A. A. Explain the Properties List In Lisp? B. Mention and discuss the utility of the Two Pre-defined Packages Used In Lisp. C. Explain Lisp Constant? (5+5+5)	15	10
291	A. A. Explain What Is Slot And What Are The Most Commonly Used Slot Options? B. B. Explain What Is Local Variables? C. Which Notation Facilitates Uniformity In Lisp? (5+5+5)	15	10
292	A. Which Symbol Is Used To Represent The Prompt In Lisp? B. What Is Lisp Machine (lispm)? C. What Is Lisp Programming? (5+5+5)	15	10
293	A. What Is Repl In Context Of Node? B. Mention How Many Types Of Variables Available Is Lisp? C. Explain What Are The Variables That Are Bound, And That Have Values Assigned To Them? (5+5+5)	15	10