C programming Question Bank
One Line Questions

1. What is variable?
2. What is constant?
3. How many bytes are required to store integer type value?
4. How many bytes are required to store float type value?
5. How many bytes are required to store char type value?
6. How many bytes are required to store double type value?
7. What is main difference between variable and constant?
8. What is local variable?
9. What is global variable?
10. How long is word?
11. How long is a byte?
12. How does a programmer finds coding errors?
13. Describe the appearance of machine code?
14. Whether the program in c can be executed by computer directly?
15. What is language processor?
16. What is purpose of language processor?
17. What are major disadvantages of machine code?
18. Give the general syntax of conditional operator?
19. Which are relational operator?
20. Which are logical Operators?
21. Which are Bitwise Operators?
22. Which are unformatted input output functions?
23. Which are formatted input output functions?
24. What is the use of getchar() function?
25. What is the use of getch() function?
26. What is the use of getche() function?
27. What is Disk IO Function?
28. What do you mean by console IO functions?
29. Give syntax of simple if stmt.
30. Give syntax of simple if – else stmt.
31. Give syntax of simple nested if – else stmt.
32. Define Program.
33. What is nested loop?
34. What is process loop?
35. What is Syntax Error?
36. What is Logical Error?
37. What is Run Time Error?
38. Define Array.
39. Give general Syntax to declare One dimensional array.
40. Give general Syntax to declare two dimensional array.
41. What is function?
42. What is built in function?
43. What is use of return statement?
44. What is the use of strcat() function?
45. What is the use of strcmp() function?
46. What is the use of strrev() function?
47. What is the use of strlen() function?
48. What is the use of strcpy() function?
49. What is recursive function?
50. What do you mean by call by value?
51. What do you mean by call by reference?
52. What is pointer?
53. What is structure?
54. What is main difference between structure and union?
55. What is use of typedef?
56. Whether Structured programming helps in reducing errors?
62. What is preprocessor ?

63. Give any two features of pre-processor.
64. Give the syntax for defining File.
65. Give the syntax for opening File.
66. Give the syntax for Closing File.
67. What is fopen()?
68. What is fclose()?
69. What is the use of ftell()?
70. What is the use of fseek()?
71. What is the use of rewind()?
72. What is the use of feof()?

Question for two marks

1. What are the three constants used in C?
2. Explain bitwise left shift operator?
3. What is unary operator?
4. Explain putchar()?
5. What is an expression? How is an expression differing from variables?
6. Explain primary data types used in C.
7. Explain escape sequence character in C?
8. What is use of if statement?
9. Write a syntax of while loop?
10. What is output of following program?

```
int m=1,n=2;
for(j=1;j<=2:j=j+1)
{ m=m+1;
n=n*j;
printf("%d \t %d\t" ,m,n);
}
```

11. Which of different types of loop statement used in C?
12. Explain for loop?
13. Enlist different format specifier in C?
14. What is an array?
15. What is output of following program?

```
main()
{ int a[7]={11,12,13,14,15,16,17};
int i;
printf("content of array");
for(i=0;i<=6;++i);
{ printf("%d\t",a[i]); }
}
```

16. What are the rules to declare one dimensional array?
17. What is multidimensional array?
18. Explain- a) strlen() b) strcat().
19. What is function?
20. Explain recursion?
21. What is call by value?
22. Explain any two string functions?
23. What is variable?
24. Write disadvantages of goto statement.
25. What is pointer?
26. Difference between union and structure.
27. What is structure?
28. Explain - a) getc() b) putc()
29. Explain any two file handling function?
30. Explain macros?
31. Explain #include?
32. Explain dynamic memory allocation?
33. State three advantages of function?
34. What is purpose of keyword void?

35. Determine the value of each of following expression
int i=8 , j=j ;
a) (3 * i – 2 * j) %(2 * d –c) b) (i > 0) && (j < 5)
36. What is mean by associativity?
37. If x = 8.8,y = 3.5,z = -5.2, then determine value of following expression
a) 2 * y + 3 * (x - z) b) 2 * x / (3 * y)
38. Describe arithmetic operator?
39. Explain scanf().
40. Difference between formatted & unformatted statement ?
41. State features of pre-processor?
42. What is command line argument?
43. Define variable & constant?
44. How static variable are define and initialized?
45. What is mean by storage class of variable?
46. List any three file mode in C?
47. Write a program to find largest between two numbers?

Questions for 5 marks

1. Enlist the features of C.
2. Explain different data types used in C language?
3. Explain type identifiers in C?
4. Explain in brief structure of C programming?
5. What is operator enlist all operators used in C?
6. What is data type explain the any four data types used in C language?
7. Explain the difference between '=' and '= =' operator explain with example?
8. Write a short note precedence & order of evaluation?
9. Differentiate between relational and logical operators used in C?
10. Write short note on Input & Output functions used in C (i.e. printf &scanf functions)?
11. What is variable? What are the rules for defining variables?
12. Differentiate between local variable and global variable?
13. Explain symbolic constants used in C?
14. Explain any two bitwise operator with suitable example.
15. Explain with example ++i and i++.
16. Explain logical operators and expressions used in C?
17. Explain the following g functions: i)getch() and ii) clrscr()
18. Explain printf() function with an example
19. Explain scanf() function with an example
20. Explain syntax and use of do....while statement.
21. Which looping statements does C provides? Explain any one.
22. Explain **continue** and **break** statements.
23. Explain switch statement with its syntax and example.
24. What is Nested if...else explain with an example?
25. Explain nested for loop with an example.
26. What is array? How to declare array? Explain with suitable example.
27. Explain one dimensional array with an example.
28. Explain Two dimensional array with an example.
29. Explain applications of array.
30. Explain any 4 string functions with suitable example?
31. What is the difference between call by value and call by reference.
32. What is recursion explain with suitable example.
33. Explain Automatic storage class specifier.
34. Explain Static storage classs.
35. Explain Register storage class.
36. Explain Extern storage class.
37. For what purpose '\0' is used in string operations explain with suitable example.
38. What is function? How function is defined.
39. Explain the difference between calling function and called function?
40. Explain void function?
41. Explain what is pointer? Expalin with suitable example.

42. Explain pointer to structure in detail.
43. Explain pointer to function in detail.
44. Explain any one dynamic memory allocation.
45. Explain how to access a value using pointer? Give a suitable example.
46. Write a short note on pointer to pointer.
47. Distinguish between malloc and calloc().
48. What is structure? Explain with suitable example.
49. Explain array of structure with example.
50. Explain Nested structure with example.
51. Distinguish between Structure and Union.
52. Differentiate structure and array.
53. Describe programming approach.
54. Explain the use of typedef with suitable example.
55. Explain directives.
56. Explain features of preprocessors.
57. What is a pre-processor explain #include ,#define.
58. Write a short note on C preprocessors.
59. Explain and distinguish between i)fprintf() ii)fscanf()
60. Write a short note on file handling in C.
61. Explain the following i)rewind() ii)feof
62. Distinguish between getch() and getc().
63. Distinguish between putch() and putc().
64. Explain putc() and getc() in brief.
65. What is command line argument.
66. Explain command line argument with example.
67. Distinguish between fprintf() and printf().
68. Explain fprintf() and fscanf() with example.
69. What is macro? Explain with example.
70. Differentiate between if-else-if ladder and switch statement.
71. Explain function with argument and return type.
72. Explain array of pointers.
73. Define array and how two-dimensional array is initialize?
74. Explain dynamic memory allocation in brief.
75. Write a note on pointer to pointer.
76. What are the similarities and difference between structure and union.
77. Explain nested structure.
78. Explain array of structure.
79. Explain pointer to structure.
80. Explain the following types of file: i)sequential ii)Index sequential iii)Direct file
81. What is advantage of representing an array of string by an array of pointer to string.
82. Explain the following functions with example: 1)getchar() 2)putchar()
83. Explain the following functions with example: 1)getche() 2)putche()
84. Explain the following functions with example: 1)getch() 2)putch()
85. Explain sizeof operator with example.
86. Explain conditional operator with example.
87. What is user defined functions and built-in functions. Enlist them.
88. What is null string ? What is it's length?
89. What is union? Explain with example.
90. Write short note on expression used in C.
91. What are static variable? Compare with standard local variable.
92. Write a rule for declaring character constant.
93. Write a rule for declaring string constant.
94. Write a rule for declaring numeric constant.
95. What is structure? Explain with example.
96. Explain * operator and & operator with example.
97. What are the rule of to use period (.) operator.
98. Explain use of EOF and BOF.
99. What is EOF and what value does usually have?
100. What are identifier and keywords? Explain it with suitable example.

101. What is type casting? Explain it with suitable example.
102. What is swapping? Explain it with suitable example.
103. Write a short note on ternary operator and cast operator.
104. What is string constant? How string constant is differ from character constant?
105. What is character constant? How character constant is differ from integer constant?
106. List out the five arithmetic operators in C and how associativity rules involved in these operators.
107. What is mean by the comparision and logical operator? How are they different from the arithmetic
and assignment operator?
108. List out the different operators involved for comparisons and logical decision making in C.
109. What is mean by the equality operator? How do these differ from an assignment operator?
110. Explain the following bitwise operators
i)Bitwise AND ii) Bitwise OR iii) BitwiseXOR iv) Bitwise Left Shift v) Bitwise Right Shift
111. What is unary operator? List out the different operator involve in the unary operator.
112. Distinguish between binary minus and unary minus.
113. What is modulus operator and how does it operate in C.
114. What is an expression? How is an expression different from the variables?
115. What are the different types of statement used in C.
116. What are the salient features of standard input and output file
117. Explain the following stements: i)getchar() ii)putchar() iii)EOF
118. What is the scanf() and how does it differ from the getchar().
119. What are the format codes used along with the scanf(). Display the various data types in C.
120. What is the printf() and compare with putchar().
121. What is mean by conditional expression?
122. What is looping in C? What are the advantages of looping?
123. What is the nested for loop, explain with a programming example?
124. Compare while loop and for loop with example.
125. What is crucial importance of main() in C.
126. What is use of continue in C, explain with suitable example.
127. List out applications of C language.
128. List out the advantages of function.
129. What is mean by call by reference & call by value.
130. What is the difference between call by reference & call by value.
131. What is the purpose of return statement.
132. List out the rules used in return statement.
133. What is mean by register variable and what the scope of it?
134. What role does the fseek() plays and how many arguments does it have?
135. What is static variable and what is its scope?
136. What is the use of external data type in c?
137. What is the storage class used in recursive function
138. What is the recursive function? List out its merits and demerits.
139. How does the fopen() works? Explain it with example.
140. What is an array and how array variable differs from ordinary variable.
141. What is an array indexing explain with an example.
142. When sorting the elements of an array is it necessary to use another array to store the sorted elements
explain?
143. What is the function and list out advantages and disadvantages of functions.
144. What is mean by function argument, function call and return value.
145. What is the automatic variable and what is the use of it.
146. How can data be initialized in the automatic variable?
147. How are the data elements initialized in the case of static type variable.
148. What is the use of external data type in C.
149. How is the #include directive is used?
150. How can #define directive be continued to a new line?
151. What are the rules used to declare a one dimensional array and two dimensional array?
152. What is character array how it differs from other data types.
153. Distinguish between character array and string.
154. Explain applications of array.

155. What is a pointer? What is the use of pointer in C.
156. What is the role played by the break statement within the switch statement? Explain with example.
157. What is the difference between the array of pointer and pointer to the array?
158. Summarize the purpose of <string.h>.
159. What is the structure and what are the uses of it.
160. Distinguish structure data type with other data type variables.,
161. How structure different from array.
162. What is meant by member or field of structure?
163. What is the difference between structure declaration and structure initialization?
164. What is the advantage of UNION in C?
165. Explain the salient features of typedef ?
166. Explain the various modes used in file operation?
168. Distinguish between binary and unary minus with example?
169. What is the modulus operator and how does it works explain it with example?
170. Why is goto not necessary for the structured programming language like C?
171. What is the purpose of comma operator within which statement does the comma operator usually appear?
172. Explain Getw() & Putw() function.

**********Programming Segment**********

1. Write a C program to find the maximum of three numbers using conditional operators.
2. Write a C Program to sort an array in ascending order.
3. Write a C Program to sort an array in descending order.
4. Write a C Program to find sum of digits in a given number.
5. Write a C Program to print square of all numbers 1 to 20 and print sum squares.
6. Write a C Program to check if given number is present in an array or not.
7. Write a C Program to find the position of given number in array.
8. Write a C Program to print transpose of matrix.
9. Write a C Program to print equivalent binary number of given decimal number.
10. Write a C Program to print equivalent octal number of given decimal number.
11. Write a C Program to print equivalent hex number of given decimal number.
12. Write a C Program to draw a circle with radius.
13. Write a C Program to calculate factorial of a given number using recursion.
14. Write a C Program to copy contents of text.dat file to txt2.data file
15. Write a C Program to print all numbers between 1 to n divisible by 7
16. Write a C Program to find sum of 1 + 2 + 3 + ….. + n.
17. Write a C Program to find sum of 2 + 4 + 6 + ….. + n.
18. Write a C Program to find sum of 7 + 14 + 21 + ….. + n.
19. Write a C Program to find sum of 1/1 + 1/2 + 1/3 + ….. + 1/n.
20. Write a C Program to print 15 terms of 1 , 2 , 4, 7, 11, 16, …..
21. Write a C Program to print even and odd number from an array.
22. Write a C Program to read character from keyboard and display message whether character is alphabet, digit or special symbol.
23. Write a C Program to read a string and count number of vowels in it.
24. What will be output of the following code or find errors if present in the code.

a)
```
main(){
int = 10 ;
char = “d” , i
k=pow(5,6);
i+=k;
}
```
b)
```
j = 2 ;
nbegin=10; n = 0; nend = 3;
for (i=0;i<=nend;i++)
{
n=nbegin+i*nend;
printf(“%d”,n+j);
```

```
j++;
}


c) main()
{
int x , y ;
x = 753;
y = 722;
printf(" x & y is %@" , x & y );
}
d) main()
{
char c[2] = "a";
printf("\n%c",c[0]);
printf("\n%s",c);
}
e) main(){
int b[] = { 10,20,30,40,50 };
int i, *k;
k = b;
for ( i = 0 ; i<= 4 ; i++)
{
printf("\n%d",*k);
k++;
}
}
f) main(){
int *a , b = 30;
a = &b;
b = *a + 40;
a = b % 5;
printf("%d %d",*a , b);
}
g) main(){
int i , j = 3;
xyz(&i,&j);
printf("%d%d",i,j);
}
xyz(int *i , int*j)
{
*i = *i * *j;
*j = *j * *j;
}
h) main(){
int x , y;
x = 2003;
x++;
y = x++;
y = x;
y++;
x--;
x--;
printf ("%d%d",x,y);
}
i) main(){
int x ;
x = 18;
while ( x > 1){
```

```
printf(“\n%d”,x);
x=x-1;
}
}
j) main()
{
int a , x;
a = 18;
x = a >> 1;
printf(“%d%d”,a,x);
}
k) int i = 10 j = 20 ;
flaot a,b,c;
a = i / j;
b = 1.0 * i / j ;
c = i / j * 1.0;
printf(“%f %f %f “,a,b,c);
l) int i = 4 , j ;
j = ++i * i++;
i*=j;
printf(“%d %d”,i,j);
m) typedef int integer;
integer m , n;
while ( n != 0)
{
m = n mod 5;
printf(“%c”,m);
n / == 10;
}
n) main()
{
int i = 0 , sum =0 , sum sq = 0;
for ( i = 2; i < 10 ; i+=2)
{
sum+=i;
sumsq+=i*i;
}
printf(“sum is : %d “ , sum);
printf(“sum of square is : %d “ , sumsq);
}
o) main()
{
static int i;
printf(“%d”,i);
}
p) main()
{
int x = 4 ;
int y = x << 1;
printf(“%d%d”,x,y);
}
q) main(){
int a;
a = 30;
a = a << 2 ;
printf(“a = %d”,a);
}
r) main(){
int i = 3;
```

```
i++;
printf("multiplication is %d",i++ * i++)}


s) main()
{
char x[] = "f.y. b.sc. " , *p;
int i = 0;
p = x;
while ( i != 10)
{
i = i + 2;
p++;
printf("%c",*p);
}
```

25. Write a C language program to display the largest element in the matrix.
26. Write a C language program to swap two numbers using pointers and function.
27. Write a C language program to calculate the series-1/1! + 2/2! + 3/3! + ……. Up to n terms.
28. Write down C language program to find out number of occurrences of a character in a file.
29. Write a C language program to display the student result sheet using the data stored in a file.

    Student structure
    Name character(25)
    Rollno integer
    Marks1 integer
    Marks2 integer
    Marks3 integer

30. Write a C language program to display the content of file using command line argument.
31. Write a C language program to copy the contents of one file to another file.
32. Write a C language program to count number of lines and words in a file.
33. Write a C language program to find out sum of the following series 1! +2! + 3!+…..+n!
34. Write a C language program to enter n elements in array and find second smallest number from an array.
35. Write a C language program to check whether given number is prime or not.
36. Write a C language program to create a file stud.dat

Field name	type
Rollno	integer
Name	character(25)
Age	integer

    Enter information about 10 students.
37. Write a C language program using recursive function to enter 4 digit number and find the sum of all digits of the number.
38. Write a C language program to print all Armstrong numbers between 1 to 500. (e.g. 153=13+53+33=153)
39. Write a C language program to find whether given number is palindrome or not.
40. Write a C language program to find GCD of given two numbers.
41. Write a C language program which will read string and count the number of characters and words in it.
42. Write a C language program to read two matrices and add them.
43. Write a C language program to read two matrices and multiply them.
44. Write a C language program to read one matrix and find the sum of it's diagonal elements.
45. Write a C language program to input number and find a largest digit in a given number and print it in word
with appropriate message. (e.g. n=5273 - "SEVEN is largest")
46. Write a C language program to compute following series G= 1+ x3/3! + x5 /5! + x7/7! + …… up to n terms.
47. Write a C language program to read n numbers in an array and split the array into two arrays even and odd
    such that the array even contains all the even numbers and other is odd. So the output will be—
    (e.g. Original array is 7,9,4,6,5,3,2,10,18 Odd array is 7,9,5,3 Even array is 4,6,2,10,18)

48. Write a C language program to check whether the string is palindrome or not.
49. Write a C language program to read records from file created in binary mode.
50. Write a C language program to create file in binary mode to store students record.
51. Write a C language program to add, list, delete record and modify the current record.
52. Write a C language program to read “mark.dat” file containing rollno, name, marks of three subjects and
calculate total mark, result in grade and store same in “result.dat” file.
53. Write a C language program to create a file “ele.dat” containing cust_no, name, current & previous reading.

54. Write a C language program to read a cust.dat file containing meter number ,name, current reading & previous reading. Read the same file calculate unit and total amounts according to the following rules—

Unit	rate
0-50	1.00
51-100	1.50
> 100	2.00

Store meter number, name, unit & amount in master.dat file.
55. Write a C language program to create file “odd” to store all odd numbers between 1 and n.
56. Write a C language program using structure to define employee record containing employee number, name and salary. Read 10 records.
57. Write a C language program to demonstrate the use of union.
58. Write a C language program to define structure for class containing class, name, no. of students and block no. Read 5 records and display it.
59. Write a C language program using command line argument to add three numbers.
60. Write a C language program using command line argument to calculate area of a rectangle.
61. Write a C language program using recursion n terms of Fibonacci series.
62. Write a C language program using recursion to calculate m^n.
63. Write a C language program using recursion to calculate factorial of given number.

DESCRIPTIVE QUESTIONS

1. Distinguish between character constant and string constant.
2. Describe all operators used in C language with example.
3. Explain in detail three parts of C program.
4. Write a short note on precedence and order of evolution.
5. Explain in detail bitwise operators with example.
6. State and explain formatted input-output statements and standard input-output statements with example.
7. Explain in detail call by value and call by reference with example.
8. Explain the following using general syntax and example. i) if ii) if-else iii) nested if-else
9. Explain break and continue statements using syntax and example.
10. Explain following i) while ii) do-while iii) for
11. Define array. Explain different types of array in detail.
12. State and explain various types of standard function with example.
13. State and explain different phases used in user defined function.
14. Explain function with return and function with arguments with example.
15. State and explain different types of string functions with example.
16. Explain dynamic memory allocation and releasing dynamically allocated memory.
17. Define structure and union. Explain the way of declaring and accessing them.
18. Explain nested structure and self referential structure with example.
19. Explain in detail array of structure and pointer to structure.
20. State and explain various modes of file opening and file closing.
21. What do you mean by pre-processor? Explain in detail macros.
22. What do you mean by pre-processor directives? List and explain its different categories.
23. Explain the concept of files, records and fields.
24. Explain any three of the following with example: i) fprintf() ii) fscanf() iii) getc() iv) feof()
25. Expalin any three of the following with example: i) getw() ii) putw() iii) feof() iv) fgets()

26. Expalin any three of the following with example: i) rewind() ii) fseek() iii) ftell() iv) fputs()
27. Write a C language program to enter n elements in array and find second largest number from array.