Programming for Problem Solving –I

Chapter wise Question Bank

Ch -1 Introduction to computer

1. Draw and explain the block diagram of Computer System.
2. List out types of software with Examples.
3. Explain flow chart with suitable example.
4. Write a menu driven C program for simple calculator. Also draw flowchart.
5. Define algorithm and explain different symbols used in flowchart.
6. What is Software and Hardware? Explain different types of Software.
7. Draw a flow chart to do the sum of 10 elements read from the user.
8. Write an algorithm and draw a flowchart to print first N Fibonacci numbers.
9. Write an algorithm and draw the flow chart to find the largest of the given three numbers – A ,B and C.

Ch -2 Overview of C

10. Discuss the important of stdio.h header file.
11. Explain basic data types of C.
12. Explain Derive data types.
13. Explain getch(), getchar(), gets(), puts()
14. What is difference between keywords and identifiers? Explain rules for naming an identifier.
15. Write a C program to convert Celsius to Fahrenheit and vice versa

Ch 3 Decision Making in C

16. Explain entry control loop and exit control loop with example.
17. Explain break and continue statement with example.
18. List the various types of loop available in C and explain their syntax.
19. Explain different type of operators used in c language with their precedence and associativity.
20. What do you mean by type conversion? Why is it necessary?
21. Explain different loops used in c language .Write the difference between while loop and do…while loop.
22. Write a program to select and print the largest of the three nos. using nested-if-else statement.
23. Write a C program to display prime number between 1 to 100.
24. Discuss about various operators used in C language.
25. Write an algorithm for finding odd and even number from given two numbers.
26. Write a program to print the following pattern.

```
*
* *
* * *
```

27. Write a program in ‘C’ to print the following pattern

1
23
456
78910

28. Write a program to print the following pattern

1
2 2
3 3 3
4 4 4 4

29. Write a program to select and print the largest of the three nos. using nested-if-else statement.
30. Write a program to perform addition, multiplication, subtraction and division with switch statement.
31. Write a program to print the following pattern

1
0 1
1 0 1
0 1 0 1

32. Write a C program to read numbers 1 to 7 and print relatively day Sunday to Saturday using switch statement.
33. Explain break and continue statement with example.

Ch -4 Array & String

34. Show 2D array declaration, initialization and iteration.
35. Write a C program to multiply two N X N Matrix.
36. What is String? How are they declared and also define the null character
37. Write a program to reverse the input string.
38. What is string? Write a program to concatenate two strings without using built in function.
39. Write a C Program to check whether the given number is prime or not.
40. Explain following string manipulation function.
41. strcat( ), strcpy( ) ,strcmp( ) and strlen( )
42. Write a program to do swapping of two elements using function with two pointers as arguments.
43. Write a function program to find whether the string is palindrome or not.
44. What is array? Give example of array.
45. What is string? In how many ways can you accept data in a string?
46. Write a program to accept a string and count the number of vowels present in a string
47. Write a program to find out the largest of an array.
48. Write a program to find sum of first N odd numbers.
49. Ex. 1+3+5+7+……..+N.
50. Discuss initialization of one-dimensional arrays with example.
51. Distinguish between “structure” and “array”.
52. Show 1D array declaration, initialization and iteration.

53. Write a C program to find 1+1/2!+1/3!+1/4!+.....+1/n!.

Ch 5 Functions & Recursion:

54. What is function? Explain the function definition, function prototype and function call with example.
55. List out the categories of functions of C. Explain any one category with example.
56. Briefly discuss about scope of variable.
57. What is UDF? Describe advantages of UDF.
58. What is user-defined function? Explain actual argument and formal arguments
59. What do you mean by recursive function? Write a program in c to find factorial of a number using recursive function.
60. What do you understand by recursive function? Explain with small example.
61. Write a function which takes 2 numbers as parameters and returns the gcd of the 2 numbers. Call the function in main().
62. Write a function to swap 2 numbers.
63. Write a function in the program to return 1 if number passed is prime otherwise return 0.
64. Describe local and global variable with example.

Ch 6 Pointers:

65. What is pointer? Explain with example to store and print the address of variable using pointer.
66. What is a pointer? How and when is it used?
67. What is Pointer? How is Pointer initialized? How is it different from Array?
68. How to initialize Pointer? Explain arrays of pointer using suitable sample program.
69. Explain Call by value and Call by reference.
70. What is pointer? Give its benefits. Write a program to do swapping of two elements using function with two pointers as arguments.

Ch 7 Structure & Union

71. What is structure? How to access the elements of structure? How to calculate size of structure? Explain with example.
72. Which type of problem can be solved by structure? Explain it with C program.
73. Write a program in c using structure to enter rollno, marks of the three subject for 3 student and find total obtained by each student
74. Distinguish between Structure and Union.
75. Write a program to do swapping of two elements using function with two pointers as arguments.
76. What is structure ? Explain nested structure and array of structure with example.
77. Define a structure called cricket that will describe the following information:
    a. Player name
    b. Team name
    c. Batting average

78. Define a structure data type called time_struct containing three member's integer hours, minutes, second. Develop a program that would assign values to individual member and display the time in following format : HH:MM:SS
79. Define a structure "personal" that would contain person name, date of joining and salary. Using this structure read information of 5 people and print the same on screen. Also display the sum of the salaries of all 5 people.

Ch 8 File Processing

80. Describe file management? Recall various file modes.
81. What is file management ? List the different file management functions and explain the various file modes.
82. Write a C Program which reads numbers from the user. If the number is odd then store it into o.txt file and if it is even then store it into e.txt file.
83. Write a 'C' program using files that copies the contents of one file to another.
84. Write a program to count total words in text.
85. Explain fopen() and its mode with an example to write a string into a file.
86. Write syntax of fseek() function and explain fseek(fp,-10,1) and fseek(fp,10,0).
87. Write a program to illustrate the use of fputc ( ) and fputs( )
88. Distinguish between the following functions:
    (I) "getc" and "getchar" (II) "printf" and "fprintf" (III) "feof" and "ferror".
89. Write a program to illustrate the use of fputc ( ) and fputs( ).

Ch 9 graphics

90. WAP to draw a line using C graphics.
91. Explain any 5 functions in graphic.h.
92. WAP to draw a point on screen.
93. C graphics program to draw a Rectangle.
94. WAP to draw a Circle using C graphics.
95. Drawing arc on screen in C graphics.
96. Drawing a Polygon on screen using C graphics.
97. WAP to draw a triangle using drawpoly().
98. Explain following Functions with example: setfillstyle(), floodfill().
99. Explain various functions that are used to display Text in Graphics mode.

Module 10 Real World Applications of C

100. Explain Various Real-World Applications of C Programming.
101. What is GUI?Explain its elements.
102. Define GUI. How Does a Graphical User Interface Work?