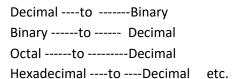
IMPORTANT QUESTIONS LIST COMPUTER SYSTEM & PROGRAMMING IN C

- 1. What is digital computer? Draw block diagram of digital computer and explain each component of it.
- 2. Explain memory hierarchy with the help of diagram.
- 3. What is an Operating System? Discuss various functions of Operating System.
- **4.** What is **structured programming**? Explain and give examples of relevant constructs using pseudo-code. Highlight the advantages and disadvantages of structured programming.
- 5. What do you mean by an algorithm? Explain the properties of algorithm.
- **6.** What do you mean by **flowchart**? Discuss the different symbols used in flowchart. Discuss advantages and limitations of flowchart.
 - (i) Draw a flowchart to find the factorial of the given number.
 - (ii) Write an algorithm and draw a flowchart for finding the largest among 3 numbers.
 - (iii) Draw a flowchart to sum first n natural numbers.
 - (iv) Write an algorithm and draw a flowchart to check leap year.
 - (v) Develop an algorithm to display all prime numbers between given range.
 - (vi) Draw flowchart to check that entered number is palindrome or not.
 - (vii) Draw a flowchart to print Fibonacci series of n terms.

7. Differentiate between:

- (i) System Software and Application Software
- (ii) Low-level, middle and high level languages
- (iii) Compiler, Interpreter.
- (iv) DOS, Windows and UNIX O.S (list 5 commands of DOS and UNIX OS)
- 8. Convert the following:



- 9. What are different data types in C language? Explain range, memory size of each with its format specifier.
- **10.** What are **operators**? Explain different types of operators used in C
- **11.** Describe **precedence and associativity** of operators.
- **12.** For , While and do-while loop with examples.
- **13.** Differentiate between **break** and **continue** with examples.
- **14.** Differentiate between **switch** and **if-else** with examples.
- 15. What are functions? What are advantages of using multiple functions in a program?
- **16.** Explain the difference between **parameter passing mechanisms** to the function? WAP to swap 2 numbers using "call by value" and "call by reference."
- 17. What do you mean by recursion? What are the main principles of recursion?
- **18.** Define the various **storage classes** in C. Explain each with suitable examples.

- 19. What do you mean by an array? In what way array is different from an ordinary variable.
- **20.** What is a **pointer** in C? How are they used, explain with the help of suitable examples. Also discuss its advantages and disadvantages.
- 21. Explain Dynamic memory allocation. Differentiate between malloc() and calloc() functions.
- **22.** What are **structures**? Write the syntax of structure. How can the size of the structure be determined? Which operator is used to access the member of the structure?
- **23.** Differentiate between **structure** and **union**.
- **24.** What do you mean by **C pre-processor**? Define the function of a C pre-processor. Explain the pre-processor directives.
- 25. What is macro? How is it substituted? Write a program that illustrates the use of macros with argument.
- 26. Explain the different file opening modes in C. Discuss basic file handling functions.

Programs List

- 1. WAP to check whether a given year is leap year or not.
- 2. WAP to calculate the factorial of a given number (using **loop** and **recursion**).
- 3. WAP to find out whether a given number is prime or not.
- 4. WAP to display all Prime numbers between a given range m and n.
- 5. WAP to print and sum the Fibonacci series of n terms using recursion.
- 6. WAP to check whether a given number is palindrome or not.
- 7. WAP to check whether a given number is Armstrong number or not.
- 8. WAP to print Fibonacci series of n terms using recursion.
- 9. WAP for Linear Searching to search a number in a given array.
- 10. WAP for Binary Searching to search a number in a given array.
- 11. WAP for Bubble sorting to sort the numbers in a given array.
- 12. WAP to reverse the given string without using strrey() function.
- 13. WAP to find number of words in a given string.
- 14. WAP to check whether given string is Palindrome or not.
- 15. WAP for matrix addition.
- 16. WAP for matrix multiplication.
- 17. WAP to store the records of n students and display the Names of students in merit list of top 10. Each record consists: {RollNo., Name, Branch, Year, Marks}.
- 18. WAP to store the records of n Employees of a company. Display the list of those employees who are working in "Computer Science" department and whose salary >= 25000. Each record consists of: emp_id, emp_name, department, salary.
- 19. WAP in C to copy the text of one file to another.
- 20. WAP to store the records of students {Rollno, name, branch, marks} in a file "record.doc"