MCA/D08
Computer Fundamentals and Problem Solving using C
MCA -101

Time : 3 Hours   MM:50

Note:- Attempt Five questions in all, Question No 1 is compulsory. Attempt Four more questions selecting one question from each unit

1(i)   What is firmware?
(ii)   List the operators in C having the associativity right to left.
(iii)   What is the lifetime of static storage class?
(iv)   What is the use of continue statement?
(v)   Differentiate between syntax and semantic error. Which one is more difficult to fix and why?
(vi)   Distinguish between signed char and unsigned char.
(vii)   Discuss the characteristic features of array data structure.
(viii)   Discuss the rules of naming the identifiers in c   3 each

UNIT-II

2   What do you understand by structured programming? What are the rules of structured programming? Explain using suitable examples.   14

3(a)   What is an algorithm? Why are its characteristics? Explain.   7
 (b)   What is decision table? Discuss the procedure of verifying the completeness of decision table using K-map.   7

UNIT-II

4(a)   What do you understand by hierarchy of operators? Differentiate between hierarchy and associativity of operators.   7
 (b)   Write a program to check whether a given no. is odd or integer using left shift (<<) and right shift (>>)operators.   7

5   Write the program for bubble sort and draw the flowchart also   14

UNIT-III

6(a)   Define recursion and write a recursive function to perform binary search. 7

 (b)   Discuss the syntax and semantic of switch statement.   7

7   Differentiate between following:
         (a)   Call by value and call by reference parameter passing techniques. 5
         (b)   Automatic and register storage class.   5
         (c)   While and do-while loop.   4

UNIT-III

8(a) Differentiate between struct and union using suitable example.   7

(b) What is pointer? Write a program to arrange a list of names in ascending order using an array of pointers   7

9 Write a program in C to count the no. of character/words/vowels and consonants in a file.   14