Time: 2 Hours **Max. Marks: 60**

NB: 1) Question No.1 is compulsory.
2) Attempt any three questions from question no. 2 to 6.

Q1	**Solve any three out of the following.**	**15**
A	Define Algorithm. Write an Algorithm to find the largest of three accepted numbers.	**05**
B	Explain the importance of **break** and **default** in Multi-way branching statement.	**05**
C	Why there is a need to write function prototype in a program? What is the syntax for writing function prototype?	**05**
D	Explain the following functions with proper example. i) gets( ) ii) puts( )	**05**
E	Differentiate between **Call by value** and **Call by reference.**	**05**
Q2		**15**
A	Explain the organization of **Standard Library of C language** with Example.	**05**
B	Write a program to find the reverse of a given number.	**05**
C	Write a program to find GCD of two natural numbers using Euclid's Algorithm which is defined as below. GCD(m, n)=GCD(n, m) if n>m = m if n=0 = GCD(n, m%n) Otherwise	**05**
Q3		**15**
A	Explain the **Right and Left Shift** Bitwise operators with proper example.	**05**
B	Differentiate between **for loop** and **do-while loop**.	**05**
C	Explain the concept of actual parameters and formal parameters.	**05**
Q4		**15**
A	Write a program to accept and sort 'n' elements of one dimensional array in ascending order.	**05**
B	Explain the **Reference and Dereference** operator with proper example.	**05**
C	Differentiate between **Structure** and **Union**.	**05**
Q5		**15**
A	Write a program to calculate and display all the roots of a quadratic equation. The quadratic equation can be expressed in the form ax^2 + bx + c = 0, where 'a' is not equal to zero. The program should prompt the user to input the values of a, b, and c, and then calculate.	**10**
B	Write a program to accept a string and display its length without using standard string library function.	**05**

Q6 **15**

A A Hospital needs to maintain details of patients. Details to be maintained are First name, Middle name, Surname, Date of Birth, Disease. Write a program which will print the list of all patients with given disease. Use the concept of Nested Structure for Date of Birth. **10**

B Write a program using concept of pointer to an array to display the content of an array in reverse order. Use pointer Arithmetic. **05**
