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	Write a C program to get age and vaccination details as input. Print "senior citizen and eligible for booster" if age > 60 and vaccination input as '2', otherwise print "below 60 and eligible for vaccination". Use conditional operator.	**05**
B	Write string handling functions in C used to do following task: • If first name, middle name, last name given as an input display it as a full name. • Display number of characters in full name. • Convert first name into capital letters and last name into small letters. • print the full name in reverse order	**05**
C	Write a program to print following pattern for given number of rows. 1 2 2 3 3 3 4 4 4 4 5 5 5 5 5	**05**
D	Differentiate between **Structure** and **Union.**	**05**
E	Explain formal parameters and actual parameters with an example.	**05**
Q2		**15**
A	What is the purpose of switch statement and write a C program to input an alphabet and check whether it is vowel or consonant using switch case.	**05**
B	Write a C program using function to check if the entered number is prime number or not.	**05**
C	What is an identifier (variable)? What are the rules to construct identifier (Variable)? Classify the following as valid/invalid Identifiers. i) num2 ii) $num1 iii) +add iv) a_2	**05**
Q3		**15**
A	Write a C program that takes three coefficients (a, b and c) of a quadratic Equation; ($ax^2+bx+c=0$) as input and compute all possible roots and print them with appropriate messages.	**10**
B	Define array. Write a C program to find the sum and average of n integer numbers using array.	**05**

X532Y44B835X532Y44B835X532Y44B835X532Y44B835

Q4 **15**

A	What is nested Structure? Explain with proper example.	**05**
B	Explain pointer operators with proper example.	**05**
C	Write a C program to replace all occurrences of a character with another in a string.	**05**

Q5 **15**

A	Write a program to calculate power of a number(x raised to n), accept value of x and n from the user.	**05**
B	What is the necessity of parameter passing to function? What are the two ways of parameters passing to function? Explain any one in detail.	**05**
C	Give the difference between break and continue with an example.	**05**

Q6 **15**

A	Write a C program to find sum of principal diagonal elements of a given square matrix.	**05**
B	Define Recursive function. Write a Program to find GCD of two numbers using Recursive function.	**05**
C	Define pseudocode. Draw flowchart and write a pseudocode to find whether given number is palindrome or not	**05**

X532Y44B835X532Y44B835X532Y44B835X532Y44B835