Time: 2½ hrs.

Note:
1. All questions are compulsory with internal choice.
2. Draw neat diagrams wherever necessary.
3. Figures to the right indicate full marks.

Marks:75

Q.1 **Answer the following (any three)** (15)
(a) What is flowchart? Explain with its symbols.

(b) Draw the flowchart for area of rectangle.

(c) Write an algorithm for addition of three integer numbers.

(d) Explain in brief keywords and identifiers.

(e) What is variable? State the rules of naming a variable.

(f) Write a note on datatypes of C.

Q.2 **Answer the following (any three)** (15)
(a) Explain increment and decrement operator with suitable example.

(b) Explain for loop with suitable example.
(c) Explain break and continue statement used in C.

(d) Write a program to calculate the total and average of five subject's marks.

(e) Write a program to print the Fibonacci series upto 20 terms.

(f) Write a program to add and subtract two numbers using options like a menu interface using Switch case.

Q.3 **Answer the following (any three)** (15)
(a) Explain the standard input and output functions used in C.

(b) Explain call by value and call by reference parameters used in function of C.

(c) Explain recursive function.

(d) Write a program to print the reverse of your name using function.

(e) Write a program to find factorial of a number using recursive function.

(f) Write a program to swap two integers using call by reference parameters.

Q.4 **Answer the following (any three)** (15)
(a) What is pointer? Explain with suitable example.

(b) What is an array? Explain multidimensional array with its syntax.

(c) Explain the dynamic memory allocation operators.

(d) Write a program to print the value and address of a variable.

(e) Write a program to print the given number is prime or not.

(f) Write a program to print Floyd's triangle upto 5 rows.

Time: 2½ hrs.

Note:
1. All questions are compulsory with internal choice.
2. Draw neat diagrams wherever necessarv.

Marks:75

Q.5   **Answer the following (any three)**   (15)
(a) What is array of structures? Explain with syntax and example.

(b) Create a structure to specify data of emp given below:

   empno, ename,salary

(c) Which are the modes of file?

(d) How to open a text file? Explain with suitable example.

(e) Write a program to write the contents in "test.txt" file.

(f) Write a program to read the contents in "sample.txt" file.

---X---