2024

SKILL ENHANCEMENT COURSE

Paper : SKIL011103

(PRGRAMMING IN C)

Full Marks : 45 *Time : 2 Hours*

The figures in the margin indicate full marks for the questions

1. Choose the correct option : *1x5=5*
   a) C is a _____ language. I(high level/ low level/ Machine level)
   b) What will be the maximum size of a float variable? (1 byte/ 4 bytes/ 8 bytes)
   c) Which operator is used for equality comparision in C? (= / ==/ !=)
   d) Reserved words can be used as Variable. (True/ False)
   e) Which escape character can be used to begin a new line in C? (\a/ \m/ \n)
2. Answer any five of the following in short : *2x5=10*
   a) What are basic data types supported in the C programming?
   b) Convert the following two mathematical expressions into C expressions.
      (i) $\frac{a+b}{c+d}$

(ii) $\text{Sin}\left(\frac{y}{\sqrt{x^2+y^2}}\right)$

c) What are the logical operators available in C?

d) Give the general syntax of *if – else* statement in C?

e) What is a loop?

f) How do you initialize arrays in C?

g) What is a *user – defined* function?

h) Differentiate between actual and formal arguments.

i) What is a variable? How are the variables declared in C?

j) How does X++ differ from ++X?

3. Answer the following questions (*Any Four*) : *5x4=20*

a) Write notes on conditional statement in C Programming.

b) Write a C program to find the smallest of three integer numbers.

c) Give differences between while and do-while statement.

d) What is an array variable? How does it differ from an ordinary variable?

e) What is recursive function? Write a recursive function to find the factorial value of a given number.

f) What are library functions? Mention any four library functions in C.

g) What is associativity? Explain the operator precedence.

h) Write short notes on break and continue statement.

4. Answer the following questions (*Any one*) : *10x1=10*

a) A company gives festival discount on purchase of their products in the following percentages :

i) If purchase amount <100 then 5% discount

ii) If purchase amount > = 1000 but < 3000 then 12% discount.

iii) If purchase amount >= 3000 but < 5000 then 12% discount.

iv) If purchase amount >= 5000 then 15% discount

Write a C program to compute the amount to be paid by the customer after discount.

b) Write a C program to find the sum of digits of a given number.

c) Write a C program to add two matrices by checking the condition for matrix addition.

d) Write a C program to find the roots of a quadratic equation $ax^2+bx+c = 0$ for all possible combinations of a, b, c.
