C-Programming for Problem Solving

18CPS13/23

Module-1

1

(a). What is a Computer? Explain different type of computers. 6M

(b). Define and give example for the following. 6M

i. Variable

ii. Constant

iii. Declaration

(c). Convert the following mathematical expressions in to 'C' expression.

a. X=e power root of(x)+e power root of(y)/xsin root(y)

b. C=a*a+1/((b+1/(c+d))

c. C=3 root of((a*a*a+b*b*b*b)/(a*a*a*a-b*b*b*))

d. Area=((pie*r*r)+(2*pie*r*h)) 8M

OR

2

(a). What are input device? Mention & explain any 2 input devices. 6M

(b). Mention different types of operators and explain any 4 in detail with explain. 6M

(c). Differentiate between primary memory & secondary memory? 4M

(d). Evaluate each of the following expression independent of each other.

The declaration & initialize statement is ..... int 1=3,j=4,k=2;

(a).i++-j-- (b).++k%--j (c).j+1/i-1 (d).j++/i-- 4M

Module-2

3

(a). What is the purpose of scanf() &printf() statement? Explain the formatted printf() along with the respective example. 6M

(b). Write a 'C' Program to check whether a given number is even or odd using if –else statement. 6M

(c). Write a 'C' Program to perform the simple calculator operations like addition, subtraction, multiplication & division use 'switch' statement in program. 8M

OR

4(a). Explain different types of loops in C with syntax & example. 8M

(b). Explain the syntax of nested 'if...else' statement. Write a 'C' Program to find largest of these numbers using nested 'if' statement. 6M

(c) Write a 'C' Program to find the sum of odd numbers 'n' natural numbers using do 'while' loop. 6M

Module-3

5

(a). Define array? Explain the declaration & initialization of single dimensional array with example. 5M

(b). Explain any five string manipulation library functions with example. 8M

(c). Write a 'C' Program to check a number is prime or not? 7M

OR

6

(a). How string is declared &initialized? Explain string input/output functions with an example. 6M

(b). Write a 'C' Program to read N numbers into an array & perform Linear search 8M

(c). Write a 'C' Program to concatenate two strings without using built in function. 6M

Module-4

7

(a). What are 'C' functions? Explain the difference between user defined& library functions. 6M

(b). Differentiate between call by value and call by reference with examples. 6M

(c). Write a 'C' Program to find the binomial co-efficient of a number using recursion. 8M

OR

8

(a). Explain the different elements of user defined functions in detail. 8M

(b). Write a 'C' Program to find the largest element in an array. 6M

(c). Write a 'C' Program to calculate the Fibonacci sequence using recursion functions.6M

Module-5

9

(a). Explain how the structure variable can be passed as a parameter to a function with an example. 6M

(b). Define pointer. Explain the declaration &initialization of pointer. 6M

(c). Write a 'C' Program to maintain a record of student details. Print the marks of the student given student name as input using structures. 8M

OR

10

(a). Explain the array of pointers with examples. 6M

(b). What are pre-processor directives? Explain #define & #include **pre**-processor directives. 6M

(c). Write a 'C' Program using pointers to compute the sum, mean & standard derivation of all elements stored in an array of 'n' real numbers. 8M