

**Shree H.N. Shukla College of Science**

**M. Sc (Mathematics) (Sem-3)**

**Preliminary Exam**

**MATH.CMT-1001:Prog. in C & Numerical Methods**

## [Time: 2.5 Hours] [Total Marks: 70]

## **Instructions :** (1) All questions are compulsory.

##  (2) There are 5 questions.

##  (3) Figures on right side indicate full marks .

1 Attempt any seven : 14

 (1) Write down names of all C-Tokens.

(2) Give definition of flow chart.

(3)Write down ASCII code for the characters : ‘D ‘ ,’d’ and ‘z’ .

 (4) Remove unnecessary paranthesis from following expressions and rewrite them :

 (i) ((a-(y/15)+z+w)%2) – (x+25);

 (ii) (a\*b) – (c/d);

 (iii) x/(z\*y);

 (iv) (((a-b)\*p)+q) – (a\*b);

 (5) Define the term : Compiler

 (6) Write down any six reserved identifiers.

 (7) Write a program which can read three integers a,b,c and it can print the values of

 a+b+c and ab+cd .

 (8) Give name of all three logical operatos with their symbols in C.

(9) Write down all the name of languages which can developed before C language.Also give

 Its name of developer.

(10) Give name of all three logical operators with their symbols in C.

 2. Answer the following : 14

 (a) Write a short note about basic structure of C program.

 (b) Write the program for Gauss – Elimination method .

 (c)Explain about if…else statement and using it write a program which can find a largest

 Number from given three integers.

 (d) Write a short note about importance of C language.

 3.Attempt the following : 14

1. Explain about while loop statement with its format and syntax.

 (b) Write a program which can print first 100 primes .

 (c) Write a program which can display tables of 11 to 15 and 16 to 20.

 (d) Write a program of false position method .

 4.Attempt the following : 14

 (a)Write a program which can read two matrices A and B of the size m x n and n x p .

 also it can find the product AB of these two matrices .

 (b)Discuss about Gauss – Seidel method to solve a system of linear equation

 : a11 x1 + a12 x2 = b1

 a21 x1 + a22 x2 = b2

(c )Write a program which can find GCD and LCM of given two integers .

 (d) Discuss about one – dimensional array and initialization for one – dimensional array.

 5.Attempt the following : 14

(a) Discuss about recursion of a function in itself .

(b) Discuss about bisection method . Also write the program for this method .

(c) Write a program which can read an integer and it can print all the divisors of the Given

 Integers.

(d) Discuss about N-R method and using its formula find the approximate value of $\sqrt[3]{7}$ by taking

 Initial x0= 2

BEST OF LUCK.