MCA 1st Semester Examination, 2019

MCA

(*Programming Lab*)

(Practical)

PAPER —MCA-192

Full Marks : 100

Time : 3 hours

The figures in the right-hand margin indicate marks

Answer any **two** questions : 35 × 2

1. Write a C program to calculate the following Sum :

$$\text{Sum} = 1 - x^2/2! + x^4/4! - x^6/6! + x^8/8! - x^{10}/10! + \ldots$$

2. Write a program in C to calculate the GCD of two given numbers.

3. Write a C program that reads two integers n and r to compute the ${}^{n}C_{r}$ value using the relation :

$${}^{n}C_{r} = n!/r!(n-r)!$$

4. Write C program that reads two integers x and n and calls a recursive function to compute x^n.

5. Write a C program that uses a recursive function to solve the Towers of Hanoi problem.

6. Write a menu-driven C program that allows a user to enter n numbers and then choose between finding the smallest, largest, sum, or average. The menu and all the choices are to be functions. Use a switch statement to determine what action to take. Display an error message if an invalid choice is entered.

7. Write a C program that reads two matrices and uses functions to perform the matrix multiplication.

8. Write a C program that uses a non recursive

function to determine if the given string is a palindrome or not.

9. Write a C program that reads 5 names each of upto 10 characters, stores them in an array, and uses an array of pointers to display them in ascending order.

10. Write a C program to find the 2's complement of a binary number.

11. Write a C program to convert a positive integer to a roman numeral. Ex.15 is converted to XV.

12. Write a C program to display the contents of a file to standard output device.

13. Write a C program to count the number of times a given character occurs in a text file.

14. Write a C program to merge two files into a third file.

15. Write a C program to print the prime numbers in the Fibonacci sequence.

[PNB : 10]
[VIVA : 20]
