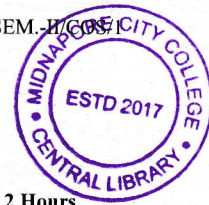


PG CBCS  
M.SC. Semester-II Examination, 2022  
COMPUTER SCIENCE  
PAPER: COS 292  
(DBMS Lab)



Full Marks: 50

Time: 2 Hours

**Module 1**  
**OOPS Lab**

**Answer any one question of the following: 1×20=20**

1. Write a program in java to find number in a specific range.
2. Write a program in java to find GCD of number.
3. Write a program in java find factorial value of number using recursion.
4. Write a program in java to handle exception using try and multiple catch block.
5. Write a program in java in to print all positive combination of digit of a given number. (IF the number is 234 then combination will be: 234,243,324,342,423,432).
6. Write a program in java to count number of vowels and consonant in a given sentence.
7. Write a program in java to create a package "Arithmetic" that contain Method to deal with all arithmetic operations.
8. Write a program in java to sort 10 names in alphabetic order.
9. Write a program in java to check a number is Armstrong or not.
10. Create an abstract class and interface with suitable member function and variable. Create a other class to show the difference between interface and abstract class.

**Module 2**  
**R Lab**

**Answer any one question of the following: 1×20=20**

1. Write a R program to combine three arrays so that the first row of the first array is followed by the first row of the second array and then first row of the third array.
2. Write a R program to create an array of two 3x3 matrices each with 3 rows and 3 columns from two given two vectors. Print the second row of the second matrix of the array and the element in the 3rd row and 3rd column of the 1st matrix.

(P.T.O.)

(2)

3. Write a R program to create an empty data frame and also create a data frame from four given vectors.  
[Vectors:- Name, score, attempts, qualify]
4. Write a R program to get the structure of a given data frame and drop column(s) by name from a given data frame.  
[Vectors:- Name, score, attempts, qualify]
5. (a) Write a R program to create a matrix taking a given vector of numbers as input. Display the matrix.  
(b) Write a R program to access the element at 3<sup>rd</sup> column and 2<sup>nd</sup> row, only the 3<sup>rd</sup> row and only the 4<sup>th</sup> column of a given matrix.
6. Write a R program to create two 2x3 matrix and add, subtract, multiply and divide the matrixes.
7. (a) Write a R program to create a vector of a specified type and length. Create vector of numeric, complex, logical and character types of length 6.  
(b) Write a R program to add two vectors of integers type and length 3.
8. (a) Write a R program to create a list containing strings, numbers, vectors and a logical values.  
(b) Write a R program to create a list containing a vector, a matrix and a list and update the last element.
9. Add legends without border and with white background in R
10. How to show legend in heat map in R?

**Viva: 5****P.N.B: 5**

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