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PG CBCS M.SC.Semester-II Examination, 2021 (Mathematics) PAPER: MTM 297 (Practical)

(C PROGRAMMING WITH NUMERICAL AND STATISTICAL METHODS)

Full Marks: 25

Time: 2 Hours

Group A

Answer ONE questionfrom the following:1×10=10

- Write a program in C to determine the key number from the dynamic 10 sorted list of numbers by an appropriate technique.
- 2. Write a program in C to sort a dynamic list of numbers by insertion 10 sort algorithm.
- 3. Write a program in C to sort a list of names in alphabetical order. 10
- 4. Write a user define-function in C that reverses a string. Hence check a 10 string is a palindrome or not using the defined function.
- Write a program in C to find out a correlation coefficient for a set of 10 dynamic points (x_i, y_i).

Group B Answer <u>ONE</u> question from the following: 1×15=15

- Write a program in C to determine the largest eigenvalue of a real 15 matrix by the power method.
- Write a program in C to solve a initial value ODE by Milne's 15 predictor-corrector method.
- 8. Write a program in C to find the solution of a Tri-diagonal system of 15 equations.
- 9. Write a program in C to interpolate a natural cubic spline 15 interpolation.
- Write a program in C to solve a system of linear equations by Guass- 15 Seidel method.