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## Certificate To whom so ever it may concern

This is to certify that Mr. Debashish Nandi (PMRF ID: 2302259), a Ph.D. student of the Department of Electrical Engineering, IIT Kanpur has conducted MATLAB workshops for fourth-year undergraduate students of the Department of Information Technology, CSJM University, Kanpur. This was done to fulfil the teaching responsibilities for Prime Minster Research Fellowship (PMRF). The workshop was conducted offline at the CSJM campus in the month of March-April, 2023. The workshop consisted of theory lectures and practice sessions and was divided into 15 lectures of a 2-hour duration each. The following contents were covered during the workshop:

- 1. Introduction to MATLAB interface.
- 2. Revision of MATIX ALGEBRA.
- 3. Defining variables, scalars, vectors and matrices.
- 4. Algebraic operations on Matrices, determinants and rank.
- 5. Solution of a simultaneous set of linear equations.
- 6. Introduction of Eigen Values and Eigen Vectors and their importance in simplification of result finding.
- 7. Conditional statements and their applications.
- 8. Introduction of loops and their applications.
- 9. Defining functions and calling of functions.
- 10. Plotting in MATLAB.
- 11. Introduction to MATLAB GUI interface for app making.

Prof. Alok Kumar

Head, Dept. of Information Technology

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Director

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