CERTIFICATE

It is certified that the work contained in the thesis titled "PERFORMANCE ENHANCEMENT OF NUMERICAL PROTECTION SCHEMES FOR SERIES COMPENSATED TRANSMISSION LINES THROUGH MACHINE LEARNING USING DATA MINING" by "SUNIL KUMAR SINGH" has been carried out under my supervision and that this work has not been submitted elsewhere for a degree.

It is further certified that the student has fulfilled all the requirements of Comprehensive, Candidacy and SOTA for the award of Ph.D. Degree.

Signature of Supervisor

Signature of Co-Supervisor

Professor (Dr.) D. N. Vishwakarma

Department of Electrical Engineering, Indian Institute of Technology (BHU), Varanasi-221005, (Uttar Pradesh), India Professor (Dr.) R. K. Saket

Department of Electrical Engineering, Indian Institute of Technology (BHU), Varanasi-221005, (Uttar Pradesh), India