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To whom it may concern

This is to be certified that the results embodied in this revised thesis as per suggestion of VU/R/Ph.D./562/18 dated 11.05.2018 entitled as "**Some Problems on Production Models**" being submitted to the Vidyasagar University by "**Sharmila Saren**" for the award of the degree of "**Doctor of Philosophy in Mathematics**" is a record of bonafide research work carried out by her under my supervision and guidance. "**Miss Sharmila Saren**" has done this research work in the "**Department of Applied Mathematics with Oceanology and Computer Programming, Vidyasagar University, India**" as per regulation of this University. In my opinion, this thesis is of standard required for the award of the degree of "**Doctor of Philosophy in Mathematics**".

The result, embodied in this revised thesis, have not been submitted to any other University or Institute for the award of any degree or diploma.

With regards

Prof. Biswajit Sarkar
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