

5th Semester	RMN5D002	Geostatistics	L-T-P 3-0-0	3 Credits
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Module-I:**(12 Hours)**

Review of probability theory and statistics. Statistical problem solving in geography. Statistical aspects of sampling of bulk materials. Introduction to Geostatistical ore reserve estimation.

Module-II:**(10 Hours)**

Brief introduction to Kriging, Indicator kriging, Aggregation, Dissagregation, Turning bands, Spectral simulation, Transition probabilities, Markov chain geostatistics, Markov mesh models.

Module-III:**(10 Hours)**

Support vector machine, Boolean simulation, Genetic models, Pseudo-genetic models, Cellular automata, Multiple-Point Geostatistics (MPS)

Module-IV:**(16 Hours)**

Definitions and tools: Regionalized variable theory, Covariance function, Semi-variance, Variogram, Kriging, Range (geostatistics), Sill (geostatistics), Nugget effect. Over view of Geostatistical software: gslib, sgems, mgstat, gstat

Books:

1. E. H. Isaaks and R. M. Srivastava, An Introduction to Applied Geostatistics, Oxford University Press, New York, USA. 1989
2. N. Remi et al., Applied geostatistics with SGems, A Users' Guide, Cambridge University Press, Cambridge 2009