DM503 Hazard Monitoring and Prediction (3-0-0-6)

Course Content

Monitoring of various hazards, early warning systems; probability, random variables, random processes, Extreme Value theory, Flood monitoring, rain distribution, hydrological forecasting, flood mapping, basin studies, case studies of floods; Seismic hazard assessment, seismotectonic modelling, few case earthquake case studies, micro and macro zonation; monitoring of landslides, application of GIS, Remote sensing in landslide monitoring and evaluation, landslide hazard zonation.

Text/ References

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3. Reiter, L., **Earthquake hazard analysis: Issues and insights**, Columbia University Press, 2000.
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5. Wyss, M., and Schroder, J.F., **Earthquake hazards, risks and disasters**, Elsevier, 2014.
6. Glade, T., Anderson, M. and Crozier, M.J., **Landslide hazard and risk**, John Wiley and Sons, 2005.
7. Oka, F., Murakami, A., and Kimoto, S., **Prediction and simulation methods for geohazard mitigation**, CRC Press, 2009.
8. Kolathayar, S., and Sitharam, T.G., **Earthquake hazard assessment: India and adjacent regions**, CRC Press, 2018.
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10. Dunnicliff, J., and Green, G.E., **Geotechnical instrumentation for monitoring field performance**, John Wiley and Sons, 1998.
11. Ansal, A., **Recent advances in earthquake geotechnical engineering and microzonation**, Springer, 2004.
12. Villaverde, R., **Fundamental concepts of earthquake engineering**, CRC Press, 2009.