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GIS 503: RS AND GIS IN URBAN PLANNING AND DISASTER MANAGEMENT

Skills, employability and entrepreneurship: This course provides geospatial technique abilities for tracking changes in urban environment over time and space, which is also useful for planning for sustainable urban growth. It imparts technical skills related to disaster management using geospatial tools. This course has good opportunities for students in government institutions, particularly in the disaster management cells (state and district levels), smart city development organizations and research institutes. Students can start their entrepreneurship in the form of consultancy/ company.

GIS in Urban Planning		
Unit 1	**Concepts**: Urban, Urbanism, Urbanisation, Regional Concept and Types of Planning process, presentation and preparation Origin and Growth of Urbanisation in the World Urban Problems: Pollution, Slum, Housing, Social wellbeing.	6 hrs
Unit 2	**Application of GIS, GPS and RS: in** Urban and Regional Planning Research Methods in Urban and Regional Studies. Applications of RS and GIS in Socio-economic Information Analysis, Agricultural Information System –Land Holdings–Irrigation, Land Use, Land Reforms.	6 hrs
Unit 3	**RS and GIS Applications:** in Agriculture and Rural Development, Concept of Rural Development–Globalization and its impact on Agriculture and Rural Development. Types of agriculture, Livestock.	6 hrs
Unit 4	**Application of RS and GIS**: in rural problem solving situation–Village Information System and planning. Planning in India–Development policies (Five Year Plans) Geo-informatics for Precision Farming-Importance and relevance to Indian Agriculture.	6 hrs
GIS in Disaster Management		
Unit 5	**Disaster Management**: Concepts of disaster; Types of disaster Natural and manmade: Cyclone, flood, landslide, land subsidence, fire and earthquake. Issues and concern for various causes of disasters. Principles of Disaster Management, Natural Disasters, Hazards, Risks and Vulnerabilities.	6 hrs

Unit 6	**Assessment of Disaster**: Vulnerability of allocation and vulnerable groups. Preparedness and Mitigation measures for various Disasters. Preparation of Disaster Management Plans.	6 hrs
Unit 7	**Issues in Environmental Health, Water & Sanitation,** Earthquake Mitigation, Floods, Fire, Landslides and other natural calamities. Post Disaster Relief & Logistics Management.	6 hrs
Unit 8	**Information systems & decision making tools**. Role of Remote Sensing in Science & Technology. Rehabilitation Programmes. Voluntary Agencies & Community Participation at various stages of disaster management. Role of military and paramilitary forces during disaster. Emergency Support: Functions and their coordination mechanism. Resource and Material Management. Management of Relief Camp.	6 hrs

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