

Course Name: Applications of Geoinformatics Part IV (For M.A. Students)

Course Code: GIS-603

Block 1: Applications of Geo Informatics in Forest

Unit 1: Introduction and distribution of forests types in India

- 1.1 Objectives
- 1.2 Introduction
- 1.3 Introduction and distribution of forests types in India
- 1.4 Summary
- 1.5 Glossary
- 1.6 Answer to check your progress
- 1.7 References
- 1.8 Terminal Questions

Unit 2: Interaction of EMR with vegetation, spectral and temporal characteristics of vegetation,

- 2.1 Objectives
- 2.2 Introduction
- 2.3 Interaction of EMR with vegetation, spectral and temporal characteristics of vegetation,
- 2.4 Summary
- 2.5 Glossary
- 2.6 Answer to check your progress
- 2.7 References
- 2.8 Terminal Questions

Unit 3: Forest covers type and forest density mapping, forest cover change detection, forest management, Biomass and Bio-diversity studies

- 3.1 Objectives
- 3.2 Introduction
- 3.3 Forest covers type and forest density mapping, forest cover change detection, forest management, Biomass and Bio-diversity studies
- 3.4 Summary
- 3.5 Glossary
- 3.6 Answer to check your progress
- 3.7 References
- 3.8 Terminal Questions

Block 2: Applications of Geo Informatics in Disaster Risk Management

Unit 4: Overview of disasters, meaning, definition and classification of disasters, importance of remote sensing & GIS in disaster management- reconnaissance, forecast, forewarning systems, disaster preparedness with respect to different disasters

- 4.1 Objectives
- 4.2 Introduction
- 4.3 Overview of disasters, meaning, definition and classification of disasters, importance of remote sensing & GIS in disaster management- reconnaissance, forecast, forewarning systems, disaster preparedness with respect to different disasters
- 4.4 Summary

- 4.5 Glossary
- 4.6 Answer to check your progress
- 4.7 References
- 4.8 Terminal Questions

Unit 5: Earthquake: Meaning, causes, prediction of earthquake, Geomatics in earthquake mitigation, seismic damage and loss estimation, quake rehabilitation and earthquake disaster management. Landslide: Meaning, causes, types and mitigation measures, landslide monitoring and landslide zonation; Floods: meaning, types and mitigation measures, flood potential zonation mapping, flood hazard and risk analysis using RS & GIS, flood disaster monitoring and reporting system.

- 5.1 Objectives
- 5.2 Introduction
- 5.3 Earthquake: Meaning, causes, prediction of earthquake, Geomatics in earthquake mitigation, seismic damage and loss estimation, quake rehabilitation and earthquake disaster management. Landslide: Meaning, causes, types and mitigation measures, landslide monitoring and landslide zonation; Floods: meaning, types and mitigation measures, flood potential zonation mapping, flood hazard and risk analysis using RS & GIS, flood disaster monitoring and reporting system.
- 5.4 Summary
- 5.5 Glossary
- 5.6 Answer to check your progress
- 5.7 References
- 5.8 Terminal Questions

Unit 6: Recent trends in disaster management, the role of mobile GIS and SDI as integrated frame work in emergency management.

- 6.1 Objectives
- 6.2 Introduction
- 6.3 Recent trends in disaster management, the role of mobile GIS and SDI as integrated frame work in emergency management.
- 6.4 Summary
- 6.5 Glossary
- 6.6 Answer to check your progress
- 6.7 References
- 6.8 Terminal Questions

Block 3 Applications of Geo-Informatics in Urban & Infrastructure

Unit 7: Concept of urban and regional planning, Urban land use planning and classification systems, urban resources information and infrastructures.

- 7.1 Objectives
- 7.2 Introduction
- 7.3 Concept of urban and regional planning, Urban land use planning and classification systems, urban resources information and infrastructures.
- 7.4 Summary

- 7.5 Glossary
- 7.6 Answer to check your progress
- 7.7 References
- 7.8 Terminal Questions

Unit 8: Remote sensing data and scales for urban area analysis, urban sprawl mapping and monitoring using remote sensing, residential area analysis

- 8.1 Objectives
- 8.2 Introduction
- 8.3 Remote sensing data and scales for urban area analysis, urban sprawl mapping and monitoring using remote sensing, residential area analysis
- 8.4 Summary
- 8.5 Glossary
- 8.6 Answer to check your progress
- 8.7 References
- 8.8 Terminal Questions

Unit 9: Overview of urban infrastructure, facilities and services, slum and squatter settlement and their identification urban services and facilities analysis, land suitability analysis for urban area development.

- 9.1 Objectives
- 9.2 Introduction
- 9.3 Overview of urban infrastructure, facilities and services, slum and squatter settlement and their identification urban services and facilities analysis, land suitability analysis for urban area development.
- 9.4 Summary
- 9.5 Glossary
- 9.6 Answer to check your progress
- 9.7 References
- 9.8 Terminal Questions