# LESSON PLAN FOR M.Sc. (Geography) Sem. I (2024-25)

| Fortnight | Dr. Sanjeev Goel **Paper: Geography of India** | Dr. Sanjeev Goel **Paper: Statistical Methods in Geography** | Mr Sunil **Paper: Climatology** | Mr Virender *Paper : Disaster Mgt.* | GEOG-105 Cartographic Method in Geog. (Dr Ganeshwari) |
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| 01.08.2024 to 15.08.2024 | 1. Major terrain elements of India and their role in shaping phy. landscape of India. 2. Drainage systems of India | 1. descriptive stats: histograms and graphs, measures of cent. Tendency, mean, median and mode | 1 Definition of weather climate. Climatology and Meteorology. 2.Origin. Composition and structure of atmosphere. Solar Radiation greenhouse effect heat budget, and temperature distribution. | Unit I Classification of disasters, major disasters of world, disaster profile of India | Unit I Line and bar graph, Polygraph, Rainfall deviation diagram |
| 16.08.2024 to 31.08.2024 | 3. regional and seasonal variation in climate and climatic regions of India. 4. soils and vegetation types of India | 2. measures of dispersion: absolute measures- range, quartile deviation and mean deviation. Relative measures of dispersion- coefficient and variation. | 3.Solar Radiation greenhouse effect heat budget, and temperature distribution. | Unit I Tectonic Disasters: Volcanoes, Earthquakes, Tsunamis, Landslides. | Unit I Climograph, Hythergraph Isopleth, Wind rose diagram |
| 1.09.2024 to 15.09.2024 | 5. characteristics of Indian agri., agri. dev. in India, problems of Indian agri. 6. Irrigation dev in India, env. Impact of Irri. dev. projects | 3. normal curve as a probability distribution, char. and area under curve. | 4. Atmospheric pressure and its distribution pattern. 5 General circulation and planetary winds. Walker circulation-ENSO and a Nina origin of monsoon and jet streams. | Unit II Hydrological Disasters Climatic Disasters | Unit II One-dimensional diagrams **Note: Test** |
| 16.09.2024 to 30.09.2024 | 7. prod. and dist. of minerals and power resources: Iron ore, mica, manganese, bauxite, coal, petroleum, hydro power. | 4. measures of inequality: location quotient, Lorenz curve. | 6.Atmospheric moisture: humidity, evaporation, condensation | Unit II Human Induced Disasters | Unit II Two-dimensional diagrams Three-dimensional diagrams **Note: Assignment I** |
| 01.10.2024 to 15.10.2024 | 8. minerals and power resources- the status of their use and need for conservation. | 5. sampling: theory of sampling, methods, sampling distribution and chances of errors in sampling | 7.Precipitation: Dynamic type of precipitation. | Unit III Vulnerability to Disasters Disaster Mitigation and Preparedness. | Unit III Dot method and Choropleth |
| 16.10.2024 to 31.10.2024 | 9. production and distribution of iron and steel, cotton textiles, automobile industry. | 6. Bivariate analysis: scatter diagram, correlation analysis, Spearman's coefficient and Karl Pearsons method. | Explanations. Globle warming and its impacts. | Unit III Mitigation Measures of Disasters. Post Disaster Recovery and Rehabilitation | Unit IV Trend graph, Age and Sex pyramid **Note: Assignment II** |
| 1.11.2024 to 15.11.2024 | 10. major industrial regions of India and their characteristics. | 7. Simple linear regression model: properties of least square estimates, coefficient of determination. | .Weather system: tropical and extra tropical cyclones. | Unit IV Impacts of Disaster on Society and Economy | Unit IV Flow diagram |
| 16.11.2024 to 22.11.2024 | 11. patterns of domestic and international trade | 8. Residuals and their mapping | 8.Stability and instability of atmosphere, air masses and fronts. | Unit IV Remote Sensing and GIS Applications in Disaster Prevention and Monitoring. | Unit IV Cartogram and accessibility maps |
| 24.11.2023 to 29.11.2024 | 12. major exports and imports of India's trade and balance of payment. | 9. Basics of multivariate analysis, correlation matrix, partial and multiple correlation. | 10Climatic classification: bases of climate Classification by Koeppen, Trewartha and Thornthwaite. Climate change-evidences and | Revision, Doubts Clearing Sessions and Mock Tests | Revision, Doubts Clearing Sessions and Mock Tests |

# LESSON PLAN FOR M.Sc. (Geography) Sem. III (2024-25)

| Fortnight | Mr. Sunil<br>Introduction to Remote Sensing (Theory) | Mr. Sunil<br>Intro. to Remote Sensing (Practical) | Mr Virender<br>Field Methods in Geography | Dr. Sanjeev Goel<br>Paper: Urban Geography | GEOG-301 Geography and Ecosystem (Dr Ganeshwari) |
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| 01.08.2024 to 15.08.2024 | 1.Fundamental concept of remote sensing, 2 Definition and scope EMR .characteristics, interaction with matter, | 1.Identification of flight line. | Unit I<br>Field work in Geography, Research Problem,Formulation of Research Design | 1. Urban Geography<br>2. Origin and evolution of towns and factors of urban growth. | Unit I<br>1.Concept of Ecosystem and Types<br>2. Energy flow in ecosystem |
| 16.08.2024 to 31.08.2024 | 3 Remote sensing regions and bands<br>4. Type of remote sensing, | 2. scale of photographs | Unit II<br>Types and Sources of Data<br>Note: Test | 3. Economic base of cities: concept and employment ratio. | Unit I<br>3. Biogeochemical cycles<br>Unit II<br>4. Biome and types |
| 1.09.2024 to 15.09.2024 | 5.Areal photographs. resolution, geomorphic properties of single aerial photos. | 3.Height of objects from single vertical photographs. 4.Identification feature with stereoscope | Unit II<br>Preparation of Questionnaires | 4. Functional classification of cities: concepts and scheme of classification. | Unit II4. Biome and types (contd.)<br>5. Ecosystem approach in geography<br>Note: Test |
| 16.09.2024 to 30.09.2024 | 6.Stereoscopy,Stereoscopic parallax, relief displacement. 7. Satellite imagery | 5.Preparation of thematic maps on landuse /land cover. | Unit III<br>Sample Design | 5. Rural Urban Fringe: structural characteristics and its development. | Unit III 6. Man-environment relationship<br>Note: Assignment I |
| 01.10.2024 to 15.10.2024 | 8. General characteristics of remote sensing sensor, 9.Indian remote sensing | 6. Georeferencing of satellite imagery in image processing software | Unit III<br>Collection of socio-economic data | 6. City and region | Unit III 7. Biodiversity and conservation |
| 16.10.2024 to 31.10.2024 | 10.Interpretation and application | 7.image to image rectification. | Unit IV<br>Retrieval and Analysis of Data | 7. Urban morphology and landuse structure | Unit IV 8.Problems of pollution<br>Note: Assignment II |
| 1.11.2024 to 15.11.2024 | 11. Elements of image Interpretation, Image processing techniques: visual and digital. | 8.Creating subset.<br>9. merging image of various resolution. | Unit IV<br>Format of Report Writing | 8. Models of city structure: | Unit IV 9. Environment legislation |
| 16.11.2024 to 22.11.2024 | 12.Application in resource mapping and monitoring | 10.making false colour composite | Revision, Doubts Clearing Sessions and Mock Tests | 9. Central place theory<br>10. Rank size rule and Law of primate city.<br>11. Social area analysis. | Revision, Doubts Clearing Sessions and Mock Tests |