**Lesson Plan**

**M.Sc. Geography\_1stSemester\_ Climatology (2022-23 odd semesters)**

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| Sr. No | Topics | No. of Days | Completed up to | Activities |
|  | **UNIT-I** | | | |
| 1 | 1. Definition of weather and climate; Climatology and Meteorology. | 15 | 18 Aug | Class Test 1 |
| 2 | 2. Origin, composition, and structure of atmosphere. |
| 3 | 3. Solar radiation, heat budget and temperature distribution |
|  | **UNIT-II** | | | |
| 4 | 4. Atmospheric pressure and its distribution pattern. | 25 | 7 Sept | Assignment 1 |
| 5 | 5. General circulation and planetary winds, Walker circulation- ENSO and La Nina, origin of monsoons and jet streams. | Student’s power point presentation |
| 6 | 6. Atmospheric Moisture : humidity, evaporation, condensation |
|  | **UNIT-III** | | | |
| 7 | 7. Precipitation: Dynamics and types of precipitation. | 20 | 1 Oct | Student’s power point presentation |
| 8 | 8. Stability and instability of atmosphere, air masses and fronts. | Assignment 2 |
| 9 | 9. Weather systems: Extra tropical and tropical cyclones. |
|  | **UNIT-IV** | | | |
| 10 | 10. Climatic classification: Bases of climatic classification by Koeppen, Trewartha and Thornthwaite. | 20 | 29 Oct | Class Test 2 |
| 11 | 11. Climatic change- Evidences and explanations. |
| 12 | 12. Global warming and its impacts. |
|  | Revision | 10 | Up to exams |  |

Department of Geography

Lesson plan- 2022-23 (Odd Semester)

**Geography of India, GEOG-102- Theory**

Class- M.Sc.I, Semester-1

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| Month/Year | Topic to be covered | Co-Curricular Activities |
| Sept, 2022 | Major terrain elements of India and their role in shaping physical landscapes of India  Drainage systems of India and their functional significance  Regional and seasonal variations in climate  climate regions of India | Internal Assessment, class test,  Topical presentations  Quiz  Geographical terms and concepts demonstrations etc.  Map reading etc |
| October, 2022 | Soil and vegetation types of India- their distribution, characteristics and conservation  Agriculture: Characteristics of Indian agriculture,  agricultural development in India since independence,  problems of Indian agriculture  Irrigation development in India,  Environmental impacts of irrigation development projects with special reference to Bhakra Nangal and Indira Gandhi Canal |
| November, 2022 | Production and distribution of following minerals and power resources  Minerals: Iron ore, mica, manganese, bauxite.  Power Resources: coal, petroleum, and hydropower.  Minerals and power resources- The status of their use and need for conservation.  Industrial Production and distribution-  -iron and steel  -cotton textile  -automobile industry |
| December, 2022 | Major industrial regions of India and their characteristics.  Patterns of domestic and international trade.  Major exports and imports of India’s trade  Balance of payment.  Revision |

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Lesson plan- 2022-23 (Odd Semester)

**Economic Geography, GEOG-103- Theory**

Class- M. Sc. I, Semester-1

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| Month/Year | Topic to be covered | Co-curricular Activities |
| Sept, 2022 | Definition, nature, scope and approaches of economic geography  Relationship of economic geography with economics and other branches of social sciences  World Economies: bases of classification, patterns and characteristics of developed and developing economies of the world. | Internal Assessment, class test,  Topical presentations  Quiz  Geographical terms and concepts demonstrations etc. |
| October, 2022 | World production and distribution of energy resources: coal and petroleum  World production and distribution of mineral resources: iron-ore and bauxite |
| November, 2022 | Network structure  economic activities  impact of transport on economic activities  Edward Ullman’s spatial interaction model  Basic concepts in location problems,  location models of Weber, Christaller and Losch  Concept of economic growth and development, |
| December, 2022 | globalization and pattern of economic development  Recent trends in pattern of international trade  Emergence of a new global economy – transnational integration and its spatial outcomes  Major regional trade blocks of the world, free trade initiatives (GATT, UNCTAD, WTO).  Revision |

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Lesson plan- 2022-23 (Odd Semester)

**Statistical Methods in Geography, GEOG-104- Theory**

Class- M. Sc. I, Semester-1

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| Month/Year | Topics to be covered | Co-curricular Activities |
| Sept, 2022 | Descriptive Statistics : Histograms and Graphs,  Measures of Central Tendency- mean, median, mode  Partitioned values: Quartiles and deciles  Comparing the mean, median and mode  Measures of Dispersion: Absolute measures: Range, Quartile Deviation, Mean Deviation, Standard Deviation.  Relative measure of dispersion: coefficient of variation. | Internal Assessment, class test,  Topical presentations  Geographical terms and concepts demonstrations etc. |
| October, 2022 | Normal curve as a probability distribution: Its characteristics and area under curve  Measure of inequality-  -Location quotient  -Lorenz curve.  Sampling: Theory of sampling,  Methods of sampling,  Sampling distribution  Chance errors in sampling. |
| November, 2022 | Bivariate Analysis: Scatter diagram, correlation analysis,  Spearman’s rank correlation and Karl Pearson’s correlation coefficient.  Test of significance.  Simple Linear Regression Model: properties of least square estimate.  Coefficient of determination. |
| December, 2022 | Residuals and their mapping  Basics of multivariate analysis:  -Correlation matrix,  -partial and multiple correlations  Revision |

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Lesson plan- 2022-23 (Odd Semester)

**Cartographic Methods in Geography (Practical), GEOG-105**

Class- M. Sc. I, Semester-1

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| Month/Year | Topic to be covered | Co-curricular Activities |
| Sept, 2022 | Climate data representation by diagrams and maps  - Line and bar graph  - Poly graph  - Rainfall deviation diagram  - Climograph (Taylor and Foster’s)  - Hythergraph  - Isopleth  - Wind rose diagram | Internal Assessment, class test,  Topical presentations  Quiz  Geographical terms and concepts demonstrations etc. |
| October, 2022 | Diagrams : Types and properties of diagrams representing socio-economic data  One dimensional diagram - Bar diagram : Simple bar, multiple bar, comparative bar  Two dimensional diagram- pie diagram, proportional circle, rectangle, square |
| November, 2022 | Three dimensional diagram- Sphere, cube, curbsi  Distribution maps  - Dot method  - Choropleth – monovariate and bivariate |
| December, 2022 | Miscellaneous diagrams and graphs  - Trend graph  - Age and Sex pyramid  - Flow diagram, cartogram and accessibility maps.  Revision |

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