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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 |  |

**Lesson Plan**

**M.Sc. Geography\_1stSemester\_ Climatology (2019-20 odd semester)**

Department of Geography

Lesson plan- 2019-20 (Odd Semester)

Geography of India, GEOG-102- Theory

Class- M.Sc.I, Semester-1

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| Month/Year | Topics to be covered | Co-curricular activities |
| July, 2019 | Major terrain elements of India and their role in shaping physical landscapes of IndiaDrainage systems of India and their functional significanceRegional and seasonal variations in climate climate regions of India | Assignment, tests, quiz, topical presentation,Geographical terms and concepts demonstration etc |
| August, 2019 | Soil and vegetation types of India- their distribution, characteristics and conservationAgriculture: Characteristics of Indian agriculture, agricultural development in India since independence,problems of Indian agricultureIrrigation development in India,  |
| September, 2019 | environmental impacts of irrigation development projects with special reference to Bhakra Nangal and Indira Gandhi Canal Production and distribution of following minerals and power resourcesMinerals: Iron ore, mica, manganese, bauxite.Power Resources: coal, petroleum, and hydropower.Minerals and power resources- The status of their use and need for conservation. |
| October/Nov, 2019 | Industrial Production and distribution--iron and steel-cotton textile-automobile industryMajor industrial regions of India and their characteristics.Patterns of domestic and international trade.Major exports and imports of India’s tradebalance of payment.Revision & practice |

Name and Signature of the Teacher

Department of Geography

Lesson plan- 2019-20 (Odd Semester)

Economic Geography, GEOG-103- Theory

Class- M. Sc. I, Semester-1

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| Month/Year | Topics to be covered | Co-curricular activities |
| July, 2019 | Definition, nature, scope and approaches of economic geographyRelationship of economic geography with economics and other branches of social sciencesWorld Economies: bases of classification, patterns and characteristics of developed and developing economies of the world. | Assignment, tests, quiz, topical presentation,Geographical terms and concepts demonstration etc |
| August, 2019 | World production and distribution of energy resources: coal and petroleumWorld production and distribution of mineral resources: iron-ore and bauxite |
| September, 2019 | Network structure economic activities impact of transport on economic activitiesEdward Ullman’s spatial interaction modelBasic concepts in location problems, location models of Weber, Christaller and LoschConcept of economic growth and development,  |
| October/Nov, 2019 | globalization and pattern of economic developmentRecent trends in pattern of international tradeEmergence of a new global economy – transnational integration and its spatial outcomesMajor regional trade blocks of the world, free trade initiatives (GATT, UNCTAD, WTO).Revision & practice |

Name and Signature of the Teacher

Department of Geography

Lesson plan- 2019-20 (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 |
| July, 2019 | Descriptive Statistics : Histograms and Graphs, Measures of Central Tendency- mean, median, modePartitioned values: Quartiles and decilesComparing the mean, median and modeMeasures of Dispersion: Absolute measures: Range, Quartile Deviation, Mean Deviation, Standard Deviation. Relative measure of dispersion: coefficient of variation. | Assignment, tests, quiz, topical presentation,Geographical terms and concepts demonstration etc |
| August, 2019 | Normal curve as a probability distribution: Its characteristics and area under curveMeasure of inequality- -Location quotient -Lorenz curve.Sampling: Theory of sampling, Methods of sampling, Sampling distribution Chance errors in sampling. |
| September, 2019 | 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. |
| October/Nov, 2019 | Residuals and their mappingBasics of multivariate analysis: -Correlation matrix, -partial and multiple correlationsRevision & practice |

Name and Signature of the Teacher

Department of Geography

Lesson plan- 2019-20 (Odd Semester)

Cartographic Methods in Geography (Practical), GEOG-105

Class- M. Sc. I, Semester-1

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| Month/Year | Topics to be covered | Co-curricular activities |
| July, 2019 | 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 | Assignment, tests, quiz, topical presentation,Geographical terms and concepts demonstration etc |
| August, 2019 | Diagrams : Types and properties of diagrams representing socio-economic dataOne dimensional diagram - Bar diagram : Simple bar, multiple bar, comparative barTwo dimensional diagram- pie diagram, proportional circle, rectangle, square |
| September, 2019 | Three dimensional diagram- Sphere, cube, curbsi Distribution maps- Dot method- Choropleth – monovariate and bivariate |
| October/Nov, 2019 | Miscellaneous diagrams and graphs- Trend graph- Age and Sex pyramid- Flow diagram, cartogram and accessibility maps.Revision & practice |

Name and Signature of the Teacher