**Lesson Plan**

**Department of Geography, Govt. College Barota (Gohana)**

**Paper: Introduction to Remote Sensing, GIS and Quantitative Methods (Theory)**

**Class and Session: B.A. 6th SEM, (2024)**

 **(from Jan 2024 to April 2024)**

**Name of the Assistant: Dr. Vikas Malik, Dr. Salesh Kalkal and Dr. Bijender Singh**

|  |  |
| --- | --- |
| **January** | **Chapter-1****Introduction to Aerial Photographs** |
| **Week:1** |  |
|  | Introduction to Remote SensingIntroduction to Remote Sensing |
|  | Meaning and Definition, application of Aerial photographs |
|  | Development of Aerial photographs |
|  | Advantages of Aerial Photographs |
|  | **Types of Aerial photographs** |
| **Week: 2** |  |
|  | Geometry of Aerial Photographs |
|  | Difference B/W Map and Aerial photographs |
|  | Scale of Aerial Photographs |
|  | Aerial photo technology and instrument |
|  | Methods of Aerial Photographs |
|  | Methods of Aerial photography |
| **Week: 3** |  |
|  | Stereoscope |
|  | Satellite Imagery |
|  | Discussion and presentation |
|  | **Chapter-2****Elements of Aerial Photo Interpretation****Image interpretation** |
|  | Basics of principals of Aerial Photography |
|  | Factors affecting the interpretation of Aerial Photographs |
| **Week: 4** |  |
|  | Identification of features in Aerial Photographs  |
|  | False Color Composition |
|  | Discussion  |
|  | Presentation |
|  **Week: 5** | Neo Determinism |
|  | **Test-I** |
| **February****Week: 1** |  |
|  | **Chapter- 3****Introduction to Remote Sensing, Meaning and Definition** |
|  | Stages of Remote Sensing |
|  | Electromagnetic Spectrum |
| **Week: 2** | Types of Artificial Satellite |
|  | Geostationary or Geo-sunsynchronus |
|  | Swath of Satellite |
|  | Censors or Satellite System |
|  | Active and Passive system |
| **Week: 3** | Photographic and Scanning System |
|  | Multi spectral Scanner |
|  | Whisk broom Scanner |
|  | Push broom scanner |
|  | Resolution capacity of Scanner |
|  **Week: 4** |  |
|  | **Chapter-4****Types of imageries and their interpretation****Meaning** |
|  | Spatial Resolution |
|  | Temporal ResolutionSpectral Resolution |
|  | Spectral Resolution |
| **Week:5** |  |
|  | Radiometric Resolution |
|  | Data production in Remote Sensing |
|  | Photographic image/ Digital Image |
|  **March** **Week:1** | Interpretation of Image Received from Satellite |
|  **Week: 2** | Application of Remote Sensing |
|  | **Chapter-5****G.I.S, Meaning and Definition** |
|  | Data Base in GIS |
|  | Sources of data in G.I.S |
|  | Types of data in G.I.S |
| **Week: 3** | Concept of space and time in S.I.S |
|  | Geo informatics Techniques |
|  | Objectives of G.I.S |
|  | Planning and G.I.S |
|  | Elements of G.I.S |
|  | Advantages of G.I.S |
|  **Week: 4** | Application of G.I.S |
|  | Discussion and Presentation |
|  | **Chapter: 7****Measures of Central Tendency: Mean, Median, Mode****Meaning and Definition** |
|  | Objectives and functions of Statistical Averages |
|  | Types of Statistical Averages |
|  | Mathematical mean/ Averages |
|  | Individual Series, Discrete Series and Continuous Series |
|  | Mean: Direct method, Short cut Method |
|  | Exercise of mean |
|  | **Assignment: I**  |
|  **April****Week:1** | Short cut method: Direct method, short cut method, step deviation method |
|  | Merits of Arithmetic mean |
|  | **Positional Averages** |
|  | Individual series, discrete series |
|  | **Test-II** |
|  | Calculation of Median |
| **Week:2** |  |
|  | Calculation of median by Dot method |
|  | Merits and demerits of Median |
|  | **Mode: Meaning and Definition** |
|  | Calculation of Mode, individual series |
|  | Discrete Series |
|  | Continuous Series |
| **Week: 3** |  |
|  | Dot Method |
|  | Merits of Mode |
|  | Relative evaluation of mean, median and mode |
|  | Inter-relationship among mean, median and mode |
|  | **Assignment: II** |
|  | **Discussion, taking Problem and Exercise**  |
| **Week: 4** |  |
|  | **Chapter:8****Measures of Dispersion, Meaning and Definition** |
|  | Various methods of Measuring Dispersion |
|  | Range, Quartile Deviation, |
|  | Mean Deviation, Standard Deviation, Relative Dispersion, Lorenz Curve |
|  | Coefficient of variation |
|  | **Revision, Problems, Discussion.....** |