

(MA GEOGRAPHY) Sem:-2

LESSON PLAN

Subject:- Computer Aided Statistical Diagrams and Digital Cartography

UNIT–I : Introduction to Computer (Weeks 1–4) January Month

Topic Coverage

- Meaning and development of Computer
- Hardware & Software
- Input / Output Devices
- Uses of Computer in Geography

Teaching Strategy

- Lecture Method
- PPT Presentation
- Real examples (Remote sensing, GIS, Census data)

Evaluation

- Short notes
- Oral questioning

UNIT–II : Microsoft Excel & Statistical Diagrams (Weeks 5–8) Feb Month

Topic Coverage

- Data Entry & Data Types
- Bar Diagram
- Pie Diagram
- Line Graph
- Scatter Diagram
- Formatting (Font, Colour, Legend, Axis)

Learning Objectives

- data handle in excel
- Statistical diagrams independently

Teaching Strategy

- Demonstration Method
- Practical based learning

Practical Work

- Census Data to Bar & Pie Diagram
- Rainfall / Population Growth Graph

Evaluation

- Practical File
- Lab Test
- Assignment

UNIT–III : Cartography & GIS Basics (Weeks 9–12) March Month

Topic Coverage

- Cartography: Meaning & Scope
- Introduction to GIS
- GIS Software: ArcGIS / QGIS
- Data Acquisition & Sources
- Geo-referencing
- Map digitization

Learning Objectives

- GIS theoretical base
- Digital maps

Teaching Strategy

- Lecture + Lab demonstration
- Step-by-step GIS workflow

Activities

- Digitization of village/ward boundary
- Geo-referencing of toposheet

Evaluation

- Practical record
- Map output
- Viva-voce

UNIT–IV : Advanced Digital Cartography (Weeks 13–16) April Month**Topic Coverage**

- Vector & Raster Data
- Data Conversion
- Attribute Table linking
- Map Layers
- Thematic Mapping
 - Qualitative
 - Quantitative

Learning Objectives

- Advanced GIS operations
- Thematic maps interpretation

Teaching Strategy

- Project based learning
- Hands-on GIS exercises

Practical Work

- Choropleth Map
- Dot Density Map
- Land Use Map

Evaluation

- Mini Project
- Case Study
- Practical Exam

LESSON PLAN**Subject:- REGIONAL DEVELOPMENT AND PLANNING****UNIT–I: Conceptual & Theoretical Framework (Weeks 1–4) January Month****Topics**

- Concept of Development
- Regional Development: Meaning & Scope

- Concept of Region & Regional Planning
- Geography and Regional Planning
- Selection of Indicators
- Measures of Regional Disparities

Learning Objectives

- Development and regional inequality
- Spatial perspective in planning

Teaching Methods

- Lecture method
- Conceptual diagrams
- Indian examples (BIMARU states, Aspirational districts)

Evaluation

- Unit test
- Assignment (Indicators of regional disparity)

UNIT–II: Growth & Development Models (Weeks 5–8) Feb Month

Topics

- Growth Theories:- Perroux's Growth Pole Theory, Hirschman's Theory, Cumulative Causation
- Polarisation vs Trickle-Down Effect

Learning Objectives

- Development models comparative analysis
- Core-periphery dynamics

Teaching Methods

- Chalk + diagram based teaching
- Comparative tables
- Case studies (Mumbai, NCR, Bangalore)

Student Activities

- Diagram drawing
- Model comparison chart
- Seminar presentation

Evaluation

- Model-based questions
- Seminar assessment

UNIT–III: Planning Process & Regional Planning in India (Weeks 9–12) March Month

Topics

- Planning Process
- Types of Planning
- Regional Planning & its Need
- Principles & Objectives
- Regions for Planning
- Planning Regions of India

Learning Objectives

- Indian planning structure
- Spatial planning regions

Teaching Methods

- Map-based teaching
- Lecture + discussion
- Atlas work

Student Activities

- India planning region mapping
- Group discussion

Evaluation

- Map work
- Class test

UNIT–IV: Applied Regional & Development Planning (Weeks 13–16) April Month**Topics**

- Development and Planning in India
- Multi-level Planning
- Five-Year Plans & Regional Policies
- Backward Area Development
- Strategy & Programmes

Learning Objectives

- Grassroot planning
- Policy evaluation skills

Teaching Methods

- Policy analysis
- Case studies (BRGF, Aspirational Districts Programme)

Student Activities

- Case study analysis
- Policy review assignment

Evaluation

- Mini project
- Viva-voce

Teaching Aids

- Maps & Atlases
- PPTs
- Census & Planning Commission data
- Whiteboard & diagrams

LESSON PLAN**Subject:-FUNDAMENTALS OF CARTOGRAPHY****UNIT–I: Introduction to Cartography (Weeks 1-4) January Month****Topics**

- Cartography: Meaning, Nature & Scope
- Development of Cartography
- Geography and Cartography
- Cartography as a Science & Human Communication
- Tools & Techniques in Cartography
- Recent Trends in Cartography

Learning Objectives

- Cartography theoretical foundation
- Traditional modern cartography evolution

Teaching Methods

- Lecture method
- Chalk + diagram explanation
- PPT (historical map examples)

Student Activities

- Short notes writing
- Discussion: “Is cartography an art or science?”

Evaluation

- Unit test
- Assignment (Evolution of cartography)

UNIT–II: Geographical Data & Sampling (Weeks 5-8) Feb Month**Topics**

- Geographical Data: Nature & Characteristics
- Types of Data Sources
- Geographical Attributes, Variables & Entities
- Data Collection Methods
- Sampling: Meaning & Importance
- Types of Samples
- Sampling Process
- Data Processing: Classification & Tabulation

Learning Objectives

- Spatial data identify and classify
- Mapping data preparation

Teaching Methods

- Lecture + examples
- Tables & flowcharts
- Census and Survey data illustrations

Student Activities

- Data classification exercise
- Sample design practice

Evaluation

- Class test
- Practical-based questions

UNIT–III: GIS, Coordinate System & Digital Cartography (Weeks 9-12) March Month**Topics**

- Cartography in GIS Environment
- Data Capture & Data Availability
- Accuracy & Precision
- Data Referencing
- Spatial & Temporal Data
- Geographical Coordinates
- Map Projection (Introduction)

- Map Reference Systems
- Digital Cartography: Meaning & Development
- Digital Significance

Learning Objectives

- GIS–Cartography integration
- Coordinate systems and digital mapping concepts

Teaching Methods

- Lecture + demonstration
- Map projection diagrams
- GIS screenshots (illustrative)

Student Activities

- Coordinate plotting
- Projection diagram drawing

Evaluation

- Diagram-based test
- Viva-voce

UNIT–IV: Cartographic Design & Map Compilation (Weeks 13-16) April Month

Topics

- Map Layout Design
- Topographic Map Design
- Thematic Maps
- Map Organization & Compilation
- Introduction to Mapping Agencies

Learning Objectives

- Effective map design principles
- Indian mapping agencies

Teaching Methods

- Design-based teaching
- Map examples
- Comparative layouts

Student Activities

- Thematic map sketching
- Agency comparison chart

Evaluation

- Mini project
- Assignment
- Internal test

Teaching Aids

- Atlases & wall maps
- PPT & diagrams
- Census / SOI sample maps
- Whiteboard

MA Geography (Semester–IV)

LESSON PLAN

Subject:- NATURAL HAZARDS AND DISASTER MANAGEMENT

UNIT–I: Concepts of Hazards and Disasters (Weeks 1-4) January Month

Topics

- Hazard: Concept and Definition
- Disaster: Meaning and Characteristics
- Types of Disasters
- Spatial Dimensions of Natural Hazards
- Examples of Hazards and Disasters in India

Learning Objectives

- Identify difference between Hazard and Disaster
- Identify India hazard-prone areas

Teaching Methods

- Lecture method
- Flowcharts & diagrams
- Indian case examples (floods, earthquakes)

Student Activities

- Difference chart (Hazard vs Disaster)
- Map pointing: Hazard-prone areas of India

Evaluation

- Unit test
- Short notes

UNIT–II: Natural and Human-Induced Hazards (Weeks 5-8) Feb Month

Topics

Natural Disasters

- Floods
- Droughts
- Earthquakes
- Landslides
- Cyclones

Human-Induced Disasters

- Biological hazards
- Technological hazards
- Industrial disasters

Learning Objectives

- Analysis Causes and consequences
- Natural vs human-induced hazards

Teaching Methods

- Cause–effect diagrams
- Case study method (Bhopal Gas Tragedy, Odisha Cyclone)

Student Activities

- Case study presentation
- Disaster impact analysis

Evaluation

- Case-based questions
- Seminar marks

UNIT–III: Disaster Risk and Vulnerability (Weeks 9-12) March Month**Topics**

- Disaster Risk: Concept
- Vulnerability: Meaning and Types
- Exposure and Capacity
- Risk Assessment
- Social, Economic and Environmental Impacts

Learning Objectives

- Risk–vulnerability relationship
- Disaster impact assessment skills

Teaching Methods

- Conceptual models
- Vulnerability mapping examples

Student Activities

- Risk analysis chart
- Group discussion

Evaluation

- Class test
- Analytical questions

UNIT–IV: Disaster Management & Mitigation (Weeks 13-16) April Month**Topics**

- Disaster Risk Reduction (DRR)
- Prediction and Early Warning
- Preparedness
- Mitigation
- Community-based Disaster Management
- Disaster Management Plans
- Government Initiatives in India

Learning Objectives

- Disaster management cycle
- Community participation

Teaching Methods

- Disaster management cycle diagram
- Policy-based teaching

Student Activities

- Preparation of mock disaster management plan
- Role of community discussion

Evaluation

- Mini project
- Viva-voce

Teaching Aids

- Hazard maps
- PPT & diagrams

- Case study reports
- Newspaper disaster reports

LESSON PLAN

Subject :- WATER RESOURCE AND MANAGEMENT

UNIT–I: Water Resources & Hydrological Cycle (Weeks 1-4) January Month

Topics

- Origin of Water on Earth
- Water as a Global Resource
- Hydrological Cycle
- Human Impact on Hydrological Cycle

Learning Objectives

- जल चक्र की प्रक्रिया समझना
- मानव गतिविधियों के प्रभावों की पहचान

Teaching Methods

- Lecture + diagram method
- Hydrological cycle flow chart

Student Activities

- Diagram drawing
- Short notes on human impact

Evaluation

- Unit test
- Oral questions

UNIT–II: Groundwater Resources (Weeks 5-8) Feb Month

Topics

- Groundwater Formation & Occurrence
- Rock Properties Affecting Groundwater
- Problems of Groundwater Utilization
- Groundwater Quality & Salinity
- Waterlogging & Groundwater Depletion
- Impact of Groundwater Depletion on Agriculture, Society & Environment

Learning Objectives

- Groundwater dynamics
- Over-exploitation impacts

Teaching Methods

- Cause–effect explanation
- Indian case examples (Punjab, Haryana)

Student Activities

- Case study analysis
- Cause–impact chart

Evaluation

- Class test
- Assignment

UNIT–III: Water Utilization & Scarcity (Weeks 9-12) March Month

Topics

- Utilization of Water Resources

- Industrial
- Agricultural
- Municipal
- Issues & Challenges of Water Utilization
- Water Stress & Water Scarcity
- Water Footprint
- Water Pricing
- Water Justice & Sustainable Development

Learning Objectives

- Sector-wise water use
- Scarcity and equity issues

Teaching Methods

- Comparative tables
- Discussion-based teaching

Student Activities

- Water footprint calculation (basic)
- Group discussion

Evaluation

- Analytical questions
- Seminar

UNIT–IV: Water Pollution & Management (Weeks 13-16) April Month

Topics

- Water Pollution: Types & Sources
- Causes & Effects of Water Pollution
- Water Resource Conservation
- Water Management & Development
- Concept, Functions & Strategies
- Current & Future Challenges in India

Learning Objectives

- Pollution control strategies
- Sustainable water management approaches

Teaching Methods

- Flow charts
- Policy-based discussion

Student Activities

- Preparation of water management plan
- Case study (Ganga/Yamuna)

Evaluation

- Mini project
- Viva-voce

Teaching Aids

- Diagrams & charts
- PPT
- Case study material
- Government water reports

LESSON PLAN

Subject:- GEOGRAPHICAL THOUGHT

UNIT-I: Development of Geographical Knowledge (Weeks 1-4) January Month

Topics

- Classification of Knowledge
- Place of Geography in the Classification of Knowledge
- Relationship of Geography with Natural and Social Sciences
- Subject Matter of Geography
- Pre-scientific Geographical Ideas
- Emergence of Scientific Geography
- Influence of **Immanuel Kant**

Learning Objectives

- Geography epistemological foundations
- Kant's Thought

Teaching Methods

- Lecture + concept explanation
- Flow diagrams (evolution of knowledge)

Student Activities

- Short notes writing
- Concept mapping

Evaluation

- Unit test
- Descriptive questions

UNIT-II: Classical Period of Geography (Weeks 5-8) Feb Month

Topics

- **Alexander von Humboldt**
- **Carl Ritter**
- Dualism & Dichotomies
 - Physical vs Human
 - Systematic vs Regional
 - General vs Particular
- Unification of Geography
- **Friedrich Ratzel** – Environmental Determinism
- **Ellen Churchill Semple**
- **Paul Vidal de la Blache** – Possibilism
- Concept of Region

Learning Objectives

- Classical thinkers comparison
- Determinism vs Possibilism

Teaching Methods

- Comparative tables
- Thinker-based explanation

Student Activities

- Thinker comparison chart
- Seminar presentation

Evaluation

- Short & long answer questions
- Seminar marks

UNIT–III: Modern Geography (Post-1950s) (Weeks 9-12) March Month**Topics**

- Quantitative Revolution
- Positivism
- Locational Analysis
- Reaction to Positivism
- Behavioural Geography
- Human-centred Theories
- Humanistic Geography
- Radical Geography

Learning Objectives

- Modern geography methodological changes
- Quantitative revolution criticise

Teaching Methods

- Diagram-based explanation
- Model discussion

Student Activities

- Debate: Quantitative vs Humanistic Geography
- Concept explanation in own words

Evaluation

- Analytical questions
- Class test

UNIT–IV: Contemporary Geography (Weeks 13–16) April Month**Topics**

- Structuralism
- Post-Structuralism
- Post-Colonial Geography
- Feminist & Gender Geography
- Post-Modern Perspectives
- Geography, Neoliberalism & Globalization

Learning Objectives

- Contemporary theoretical shifts
- Geography and society-economy-power relations

Teaching Methods

- Conceptual discussion
- Current examples

Student Activities

- Critical review writing
- Group discussion

Evaluation

- Assignment
- Viva-voce

Teaching Aids

- Flow charts & thinker tables
- PPTs
- Reference books (Dickinson, Hartshorne, Peet, Johnston)
- Whiteboard

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