

**Syllabus
GEOGRAPHY
(UG courses)
Admitted Batch 2008 -2009**



**May 2008
A.P. State Council of Higher Education**

MODEL CURRICULUM DEVELOPMENT IN GEOGRAPHY AT UNDERGRADUATE LEVEL

SUBJECT COMMITTEE

1. Prof. Y.V. Ramanaiah
Department of Geography
Sri Krishnadevaraya University
ANANTAPUR – 515 055 (Coordinator)
2. Prof. K. Ravindra Reddy
Department of Geography
Sri Krishnadevaraya University
ANANTAPUR – 515 055
3. Prof. Vijaya Bhole
Department of Geography
Osmania University
HYDERABAD – 500 007
4. Prof. A. Kamalakara Reddy
Department of Geography
Osmania University
HYDERABAD – 500 007
5. Prof. M. Harikrishna
Department of Geography
Andhra University
VISAKHAPATNAM – 530 003
6. Dr. S. Sreenivasulu
Department of Geography
S.V. University
TIRUPATI – 517 502
7. Dr. T.M. Venkatachari
Lecturer in geography
Government Arts College
RAJAHMUNDRY
8. Sri S. Veerabhadra Reddy
Lecturer in Geography
S.K.S.C. Degree College
PRODDATUR
9. Prof. S. Subbaiah
Former Professor of Geography
University of Madras
CHENNAI – 600 005

MODEL CURRICULUM***B.Sc. Courses (Structure)******First year:***

S.no.	Subject	Hrs per week
1.	English language including communication skills	6
2.	Second language	4
3.	Core1-I	4
4.	Core2-I	4
5.	Core3-I	4
6.	Core1-lab I	3
7.	Core2-lab I	3
8.	Core3-lab I	3
9.	Foundation course	3
10.	Computer skills	2
Total		36

Second year:

S.no.	Subject	Hrs per week
1.	English language including communication skills	6
2.	Second language	4
3.	Core1-II	4
4.	Core2-II	4
5.	Core3-II	4
6.	Core1-lab II	3
7.	Core2-lab II	3
8.	Core3-lab II	3
9.	Environmental studies	4
10.	Computer skills	2
Total		37

Third year:

S.no.	Subject	Hrs per week
1.	Core1-III	3
2.	Core1-IV	3
3.	Core2-III	3
4.	Core2-IV	3
5.	Core3-III	3
6.	Core3-IV	3
7.	Core1-lab III	3
8.	Core1-lab IV	3
9.	Core2-lab III	3
10.	Core2-lab IV	3
11.	Core3-lab III	3
12.	Core3-lab IV	3
13.	Foundation course	3
Total		39

Geography – Scheme of instruction

Course Number	Title	Marks	Number of Lectures (hours) required during the academic year
FIRST YEAR			
Paper - 1	Fundamentals of Physical Geography	100	120 hours (4 hours a week)
Lab - 1	Elements of Mapping	75	90 hours (3 hours a week) 30 sessions
SECOND YEAR			
Paper - 2	Human and Economic Geography	100	120 hours (4 hours a week)
Lab - 2	Maps and Diagrams	75	90 hours (3 hours a week) 30 sessions
THIRD YEAR			
Paper – 3	Regional Geography of India	100	90 hours (3 hours a week)
Paper – 4	Remote Sensing and GIS	100	90 hours (3 hours a week)
Lab – 3	Map Projections and Field Survey and Study	75	90 hours (3 hours a week) 30 sessions
Lab – 4	GIS and Remote Sensing	75	90 hours (3 hours a week) 30 sessions

1.
 - i) Each theory paper carries 100 marks of 3 hours duration of examination.
 - ii) Each Practical (Lab) carries 75 marks of 3 hours duration of examination.
2. For conducting practicals and practical examinations each batch of students shall not exceed 10 students.
3. Geography at undergraduate level shall be taken as one of the core subjects in both B.Sc. and B.A. streams of study.

FIRST YEAR SYLLABUS OF B.A. / B.Sc. GEOGRAPHY

PAPER – I : FUNDAMENTALS OF PHYSICAL GEOGRAPHY

120 hrs
(4 hrs/week)

Unit-1:Earth Dynamics

Land and Sea: Formation and distribution;
Theories: Isostasy, Continental Drift, Plate Tectonics
Interior of Earth
Earthquakes
Volcanoes
Rocks
Weathering and Mass-wasting

Unit-2:Geomorphology

Processes and Landform Development
River: Flow and Work – erosion, transportation, deposition – landforms
Wind: Air flow and Work - erosion, transportation, deposition – landforms – desert formations
Marine: Waves and Currents and Work - erosion, transportation, deposition – shoreline and landforms
Karst: Flow of Underground water and Work – solutions – erosion and deposition – landforms
Glacial: Types, Movements and Work – erosion, transportation and deposition - landforms

Unit-3:Climatology

Weather and Climate, Elements of Weather
Atmosphere: Structure and Composition
Insolation: Factors influencing the incidence and distribution
Temperature: Horizontal and Vertical Distribution
Pressure: Influencing factors – High and Low Pressure Areas, Global Pressure Belts
Winds: Local, Periodic and Planetary
Cyclones – Formation, Distribution and Impacts: Tropical and Temperate
Humidity: Absolute and Relative
Clouds: Types, Formation and Potentials
Precipitation: Types, Formation, Distribution

Unit-4:Oceanography

Submarine Relief: Continental Shelf, Continental Slope, Abyssal Plain, Ocean Deepes and Trenches, Mid-Oceanic ridges
Temperature: Horizontal and Vertical Distribution
Salinity: Factors and Distribution
Waves and Tides: Types and Formation
Ocean Currents: Types and Factors Responsible - Currents of Atlantic, Pacific and Indian Oceans
Ocean deposits – Types and Distribution

Basic Texts:

1. Critchfield (1997) General Climatology, Prentice Hall of India, New Delhi.
2. Strahler, A.H. and Strahler A.N., (1971) Physical Geography, Wiley eastern, New Delhi
3. Trewartha (1968) An Introduction to Climate, Mc Graw Hill, New Delhi.
4. Cole and King, (1975) Oceanography for Geographers, E. Arnold, London.
5. Ken Briggs (1985) Physical Geography: Process and System, Holder and Stoughton, London.
6. Rice R.J. (1996) Fundamentals of Geography Addison – Wesley.

Additional Texts:

1. Tikka, R.N. (1999) Physical Geography, Kedarnath & Ramnath & Co., Meerut.
2. Dasgupta and Kapur (1998) Physical Geography, Chand & Co., Delhi.
3. Lal, D.S. (1996) Climatology, Chaitanya Publishing House, Allahabad.
4. Savindersingh (2000) Geomorphology, Prayag Pustak Bhavan, Allahabad.
5. Sharma, R.C. and Vatal, M (1997) Oceanography for Geographers, Chaitanya Publishing, Allahabad.
6. Sparks, B.W. (1965) Geomorphology, Brill Academic Publishers.

FIRST YEAR B.A. / B.Sc. GEOGRAPHY PRACTICAL – SYLLABUS

90 hrs
(3 hrs/week)

PRACTICAL – I : ELEMENTS OF MAPPING

1. Maps: Types – Cadastral – Topographical – Atlas – General Maps – Thematic Maps
2. Scales: Classification – Statement – Representative Fraction(R.F.) – Construction of Linear – Diagonal – Conversion of Scales
3. Representation of Relief – Spot heights, Bench marks, Layer colouring, Contours – Hachures and Hill shading
4. Contours: Drawing and Contour Interval – Drawing of Cross profiles and landform Identification and description: Plateau – Ridge – Conical hill – U-shaped valley – V-shaped valley – Gorge – Spur - Cliff – Escarpment
Measurement and description of Slopes: Convex, Concave, Uniform and Terraced
5. Profile drawing and Interpretation: Simple Profile – Composite profile – Super imposed profile – Projected profile
6. Map Interpretation
Topographical Map – Conventional Signs and Interpretation
Weather Map – Weather symbols and interpretation

Basic Texts

1. Monkhouse,F.J. and Wilkinson,H.R. (1968) Maps and Diagrams, Methuen, London.
2. Misra,R.P. and Ramesh,A (1999) Fundamentals of Cartography, Mac Millan, New Delhi.

Additional Texts

1. Gopal Singh, (1996) Map Work and Practical Geography, Vikas Publishing House, New Delhi.
2. Singh,R.L. and Dutt,P.K. (1968) Elements of Practical Geography, Students Friends, Allahabad.
3. Negi,B.S. (1998) Practical Geography, Kedarnath and Ramnath, Meerut.

SECOND YEAR SYLLABUS OF B.A. / B.Sc. GEOGRAPHY

PAPER – II : HUMAN AND ECONOMIC GEOGRAPHY

120 hrs
(4 hrs/week)

Unit-1: Perspectives

Nature and Objectives of Human and Economic Geography
Man and Environment: Physical and Cultural environment
Human activities – Primary – Secondary – Tertiary – Quaternary
Resources: Classification, Conservation and Management, Sustainability

Unit-2: Population and Settlement

Human Races: Origin, Classification, Characteristics and Distribution. Cultural Realms of the World
Population: World population – growth and distribution – Demographic Transition
Human Migration: Types, Causes and Consequences of Migration, Indian Diaspora
Human Settlements: Forms, Structure, Functions and Patterns – Rural and Urban settlements – Urbanisation – Impacts of Urbanisation

Unit-3: Resources

Agriculture: Landuse and Special Economic Zones, Crop Pattern and Production, Location Model of Von Thunen
Livestock: Development and Distribution – Dairying, Meat and Woolen
Fisheries: Major Fishing grounds of the World – Production and Trade
Forest: Types, Distribution and Forest Products – Wild Life
Minerals: Metallic (Iron Ore, Copper) – Non-metallic (Limestone and Mica) – Fuels (Coal and Petroleum) – Locations and Potentials – Mining and Trade

Unit-4: Industry, Transport and Trade

Industry: Locational Factors, Industrial location theory of Weber – Major industries (Iron and Steel, Cotton and Textile, Ship building) – Industrial Regions of the World
Transport: Roadways, Railways, Waterways and Airways
Trade: International Trade, Major Exports and Imports, Balance of Trade – WTO and Developing Countries

Basic Texts

1. Leong, G.C. and Morgan, C.C. (1975) Human and Economic Geography, Oxford University Press, London.
2. Alexander, J.W. (1963) Economic Geography, Prentice Hall, New Delhi.
3. Hartshorn, T.A. and Alexander (1988) Economic Geography, Prentice Hall, New Delhi.

Additional Texts

1. Majid Hussain (1999) Human Geography, Rawat, Jaipur.
2. Ghosh, B.N. (1995) Fundamentals of Population Geography, Sterling Publishers, Bangalore.
3. Chandana, R.C. (1986) A Geography of Population, Kalyani Publishers, New Delhi

4. Guha,J.L. and Chatoraj,P.R. (1978) Economic Geography, World Press, Kolkatta.
5. Bhende,A.A. and Kanitkar,T (2006) Principles of Population Studies, Himalaya Publishing House, Hyderabad.

SECOND YEAR B.A. / B.Sc. GEOGRAPHY PRACTICAL – SYLLABUS

PRACTICAL – II : MAPS AND DIAGRAMS

90 hrs
(3 hrs/week)

1. Data: Primary and Secondary – Classification
2. Diagrams: (i) One Dimensional: Line Graph – Poly Graph – Bar Graph – Pyramid Graph – Simple and Compound Diagram, Pie Diagram
(ii) Two Dimensional: Squares and Rectangles
(iii) Three dimensional: Spheres and Blocks
(iv) Climatic Diagrams: Climo Graph, Hyther Graph, Wind Rose
3. Maps: i) Thematic Maps: Class intervals – Choropleth – Isopleth – Choroschematic – Dot Maps – Flow Maps
(ii) Flow Chart

Basic Texts

1. Monkhouse,F.J. and Wilkinson,H.R. (1968) Maps and Diagrams, Methuen, London.
2. Robinson,A.H. et al (1995) Elements of Cartography, John Wiley, New York.

Additional Texts

BOOKS RECOMMENDED

1. Singh,R.L. and Dutt,P.K. (1968) Elements of Practical Geography, Students Friends, Allahabad.
2. Misra,R.P. and Ramesh,A (1989) Fundamentals of Cartography, Concept, New Delhi.

THIRD YEAR SYLLABUS OF B.A / B.Sc. GEOGRAPHY

PAPER – III : REGIONAL GEOGRAPHY OF INDIA

90 hrs
(3 hrs/week)

UNIT-1:Physical Setting

Locational aspects and advantages – Major physical divisions – Drainage system -
Climate – Mechanism of Indian monsoons – Drought prone and Flood prone regions
– Natural vegetation – Soil types

UNIT-2:Cultural Settings

Racial and ethnic diversities - Major tribes – Language - Religion and Tradition and
Cultural regions
Population – Growth, distribution, Sex-ratio, Age-structure, problems and policies,
Literacy rate – Work-force – Migration
Settlement Patterns – Rural and Urban Growth - Urbanisation

UNIT-3:Economic Settings

Resources - Land, Water, Energy (Coal and Petroleum; Hydel, Thermal, Atomic and
wind), Minerals (Iron ore, Manganese, Copper, Mica) – utilization and conservation;
Agriculture - Types (subsistence and commercial; intensive and extensive and
plantation), Irrigation, Land tenure and Land reforms, Cropping pattern and Green
revolution, Livestock and White revolution, Aquaculture, Problems of Indian
Agriculture
Industry – Study of Iron and Steel, Cotton textiles, and Oil refineries, and Industrial
regions
Transport – Road ways, Railways, Water ways, Airways – Growth and distribution
Regional Development: Regions – Sharing of Resources – Efforts of Five Year Plans

UNIT-4:Andhra Pradesh

Physical aspects – Relief, Drainage, Climate, Vegetation and Soils
Resource base – Fuel and mineral wealth
Population – Growth and distribution, Rural and Urban population, Urbanization
Agriculture: Irrigation development, Major irrigation projects, Cropping pattern,
Production and Potentials

Basic Texts

1. Sharma and Coutino (1980) Economics and Commercial Geography of India, Vikas Publication, New Delhi.
2. Spate,O.H.K. and Learmonth,A.T.A (1972) India and Pakisthan, B.I. Publications, Madras.
3. Prithvish Nag and Sengupta,S. (1999) Geography of India, Concept , New Delhi.
4. Alam, M.S. (1974) Planning Atlas of Andhra Pradesh, Govt. of India and Andhra Pradesh, Hyderabad.

Additional Texts:

1. Singh,R.L. (1976) Regional Geography of India, NCSI, BHU, Varanasi.
2. Mamoria,C.B. (1995) Economic and Commercial Geography of India, Shiva Lal Agarwala, Agra..
3. (1981) Andhra Pradesh Year Book, Data News Features, Hyderabad.

THIRD YEAR B.A./B.Sc. GEOGRAPHY PRACTICAL – SYLLABUS

PRACTICAL –III : PROJECTIONS AND FIELD SURVEY AND STUDY

90 hrs
(3 hrs/week)

Projections: Constructions and Uses

Conical Projections: One Standard Parallel, Two Standard Parallel, Bonne's

Cylindrical Projections: Equal area, Equal distant, Mercator

Zenithal Projections (Polar cases only): Stereographic, Gnomonic, Zenithal
Equidistant and Equal Area

Conventional: Mollweide, Sinusoidal.

FIELD SURVEY

- i) Chain Survey: Triangulation Method –Closed Traverse & Open Traverse
- ii) Prismatic Compass Survey: Open and Closed Travers – Intersection method
- iii) Plane Table Survey: Intersection method
- iv) Village / Urban Study: Socio-economic or Physiographic study – Educational
Tour: Observations, Measurements, Interviews, data collection, data Analysis,
Report Writing

Basic Texts:

- 1) Monkhouse, F.J. and Wilkinson M.R. (1968) Maps and Diagrams, Methuen, London.
- 2) Misra, R.P. and Ramesh, A (1989) Fundamentals of Cartography, Concept, New Delhi.
- 3) Robinson, A.H. (1995) Elements of Cartography, John Willey, New York.

Additional Texts:

- 1) Gopal Singh (1996) Map work and Practical Geography, Vikas Publishing, New Delhi.
- 2) Negi, B.S (1998) Practical Geography, Kedarnath and Ramnath, Meerut.

Geography 12 of 23

THIRD YEAR B.A./B.Sc. GEOGRAPHY PRACTICAL – SYLLABUS

90 hrs
(3 hrs/week)

PAPER IV: REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEMS(GIS)

UNIT – I : Remote Sensing

Basics of Remote Sensing: Definition, History, Advantages
Aerial Photography and Satellite Remote Sensing.

Components of Remote Sensing System:

Energy Source, Energy-Atmosphere Interaction, Energy-Matter Interaction,
Platforms, Sensors, Data handling system, Data Users

Energy Interaction with Atmosphere and Surface Materials:

Nature of Electromagnetic Radiation – Electromagnetic Radiation Spectrum
Interaction of Electromagnetic Radiation with Atmosphere and with Earth Surface
Materials – Spectral Signatures.

UNIT – II : Remote Sensing: Platforms and Sensors and Products

Remote Sensing Platforms: Aircrafts and Satellites

Orbital Characteristics of Sun-synchronous Earth Resource Satellites and Geostationary
Communication – Special Purpose Satellites

Remote Sensing Sensors:

Types of Sensors: Active and Passive – Framing Systems (Cameras) – Scanning Systems
Sensor Characteristics: Spatial Resolution, Spectral Resolution, Radiometric Resolution,
Temporal Resolution.

Cameras: Single Lens, Multiple Lens, Strip and Digital – Films and Filters

Scanners: Cross-track Vs. Along-track – Mono-Spectral Vs. Multi-Spectral Scanners

Products: Visual and Digital

Remote Sensing in India: Development and Growth – Satellites

UNIT – III: Geographic Information Systems (GIS)

GIS: Definition – Contributing Disciplines – Functions – Data Capture/Input, Data Storage,
Data Retrieval, Data Analysis, Data Output

Components of Geographic Information Systems: Hardware Components, Software
Components, Brain-ware Components and Organizational set up

Data Input and Editing: Data Types: Spatial and Attribute data – Raster and Vector

Sources of GIS data

Methods of Data input (Keyboard Entry, Digitizing, Scanning) – GPS and Its Application

UNIT - IV : Geographic Information Systems

Data Base Management System: Definitions and Functions

Data Analysis and Modeling:

Data Conversion (Format, Structure, and Medium Conversion)

Spatial Measurements (Counting, Measuring lengths and Areas)

Reclassification, Buffering (Point, Line, Area, Doughnut),

Overlay Analysis

Modeling Surfaces (DTMs)

Modeling Networks

Remote Sensing and GIS: Integration – GIS Application (Urban / Agricultural / Landform Studies)

Basic Texts:

1. Campbell, James,B (1987) Introduction to Remote Sensing, The Guilford Press, New York.
2. Curran, P (1985) Principles of remote Sensing, Longman, London.
3. Kang-tsung Chang (2003) Geographic Information Systems, Tata Mc Graw Hill, New Delhi
4. Lillisand, T.M. and R.W Kiefer (1997) Remote Sensing and Image Interpretation, John Wiley and Sons, new York.
5. Star J, and J. Estes, (1994), Geographic Information Systems: An Introduction, Prentice Hall, New Jersey.
6. Michael F. Goodchild and Karen K. Kemp (1990) Introduction to GIS, National Centre for Geographic Information and Analysis, University of California, Santa Barbara.

Additional Texts:

1. Anji Reddy,M (2006) A Text Book of remote Sensing and Geographical Information Systems, B.S. Publications, Hyderabad.
2. Clarke, Keith C. (1999) Getting Started with Geographic Information Systems, Prentice Hall, New Jersey,
3. Lo Albert, C.P., and Yeung, K.W (2003) Concepts and Techniques of Geographical Information Systems, Prentice Hall of India Pvt. Ltd., New Delhi.

THIRD YEAR B.A./B.Sc. GEOGRAPHY PRACTICAL – SYLLABUS

PRACTICAL IV : GIS AND REMOTE SENSING

90 hrs
(3 hrs/week)

Unit I : GIS

1. Scale of Measurement: Nominal, Ordinal, Interval, Ratio
2. Data Mode: Spacial Data (Location: Point, line, polygon; attributes; time), Creating a Vector Data, Creating a Raster Data, Raster Data Values, Spacial Relations (point-point, point-line, point-area, line-line, line-area, area-area)
3. Data Input: Manual, Digitising, Scanning
4. Raster and Vector GIS Capabilities: Display, Query, Overlay, Buffering.

Unit II: Remote Sensing

5. Air Photographs and Satellite Imageries: Describing the Marginal Information
6. Air Photo Interpretation: Using Stereoscope, Stereoscopic Vision Test, Flightline Marking, Landuse Mapping, Relief and Drainage Mapping
7. Imagery Interpretation: Visual Methods – Mapping of Landuse / Land Cover / Drainage

Basic Texts:

1. Campbell, James,B (1987) Introduction to Remote Sensing, The Guilford Press, New York.
2. Clarke, Keith C. (1999) Getting Started with Geographic Information Systems, Prentice Hall, New Jersey,
3. Kang-tsung Chang (2003) Geographic Information Systems, Tata Mc Graw Hill, New Delhi
4. Michael F. Goodchild and Karen K. Kemp (1990) Introduction to GIS, National Centre for Geographic Information and Analysis, University of California, Santa Barbara.

Additional Texts:

1. Anji Reddy, M (2006): A Text Book of Remote Sensing and Geographical Information Systems, B.S. Publications, Hyderabad.
2. Curran, P (1985) Principles of remote Sensing, Longman, London.
3. DeMers, Michel, N (1997) Fundamentals of Geographic Information Systems. John Wiley and Sons, New York.
4. Lillisand, T.M. and R.W Kiefer (1997) Remote Sensing and Image Interpretation, John Wiley and Sons, New York.

FIRST YEAR SYLLABUS OF B.A. / B.Sc. GEOGRAPHY

WORKLOAD PARTICULARS

PAPER - I: FUNDAMENTALS OF PHYSICAL GEOGRAPHY (120 hours per annum)

Unit-1:Earth Dynamics (30 hours)

- Land and Sea: Formation and distribution (4 hours)
- Theories: Isostasy, Continental Drift, Plate Tectonics (6 hours)
- Interior of Earth (4 hours)
- Earthquakes (4 hours)
- Volcanoes (4 hours)
- Rocks (4 hours)
- Weathering and Mass-wasting (4 hours)

Unit-2:Geomorphology (20 hours)

- Processes and Landform Development
- River: Flow and Work – erosion, transportation, deposition – landforms (4 hours)
- Wind: Air flow and Work - erosion, transportation, deposition – landforms – desert Formations (4 hours)
- Marine: Waves and Currents and Work - erosion, transportation, deposition – shoreline and landforms (4 hours)
- Karst: Flow of Underground water and Work – solutions – erosion and deposition – landforms (4 hours)
- Glacial: Types, Movements and Work – erosion, transportation and deposition – landforms (4 hours)

Unit-3:Climatology (40 hours)

- Weather and Climate, Elements of Weather (2 hours)
- Atmosphere: Structure and Composition (6 hours)
- Insolation: Factors influencing the incidence and distribution (2 hours)
- Temperature: Horizontal and Vertical Distribution (4 hours)
- Pressure: Influencing factors – High and Low Pressure Areas, Global Pressure Belts (5 hours)
- Winds: Local, Periodic and Planetary (6 hours)
- Cyclones – Formation, Distribution and Impacts: Tropical and Temperate (4 hours)
- Humidity: Absolute and Relative (2 hours)
- Clouds: Types, Formation and Potentials (4 hours)
- Precipitation: Types, Formation, Distribution (5 hours)

Unit-4:Oceanography (30 hours)

- Submarine Relief: Continental Shelf, Continental Slope, Abyssal Plain, Ocean Deepes and Trenches, Mid-Oceanic ridges (6 hours)
- Temperature: Horizontal and Vertical Distribution (4 hours)
- Salinity: Factors and Distribution (4 hours)
- Waves and Tides: Types and Formation (4 hours)
- Ocean Currents: Types and Factors Responsible - Currents of Atlantic, Pacific and Indian Oceans (8 hours)
- Ocean deposits – Types and Distribution (4 hours)

FIRST YEAR B.A. / B.Sc. GEOGRAPHY PRACTICAL – SYLLABUS

WORKLOAD PARTICULARS

PRACTICAL – I : ELEMENTS OF MAPPING (90 hours per annum)

7. Maps: Types – Cadastral – Topographical – Atlas – General Maps – Thematic Maps (14 hours)
8. Scales: Classification – Statement – Representative Fraction(R.F.) – Construction of Linear – Diagonal – Conversion of Scales (16 hours)
9. Representation of Relief – Spot heights, Bench marks, Layer colouring, Contours – Hachures and Hill shading (14 hours)
10. Contours: Drawing and Contour Interval – Drawing of Cross profiles and landform Identification and description: Plateau – Ridge – Conical hill – U-shaped valley – V-shaped valley – Gorge – Spur - Cliff – Escarpment
Measurement and description of Slopes: Convex, Concave, Uniform and Terraced (16 hours)
11. Profile drawing and Interpretation: Simple Profile – Composite profile – Super imposed profile – Projected profile (15 hours)
12. Map Interpretation
Topographical Map – Conventional Signs and Interpretation
Weather Map – Weather symbols and interpretation (15 hours)

SECOND YEAR SYLLABUS OF B.A. / B.Sc. GEOGRAPHY

WORKLOAD PARTICULARS

PAPER – II : HUMAN AND ECONOMIC GEOGRAPHY (120 hours per annum)

Unit-1: Perspectives (20 hours)

Nature and Objectives of Human and Economic Geography (4 hours)

Man and Environment: Physical and Cultural environment (5 hours)

Human activities – Primary – Secondary – Tertiary – Quaternary (5 hours)

Resources: Classification, Conservation and Management, Sustainability (6 hours)

Unit-2: Population and Settlement (35 hours)

Human Races: Origin, Classification, Characteristics and Distribution. Cultural Realms of the World (7 hours)

Population: World population – growth and distribution – Demographic Transition (12 hours)

Human Migration: Types, Causes and Consequences of Migration, Indian Diaspora (6 hours)

Human Settlements: Forms, Structure, Functions and Patterns – Rural and Urban settlements – Urbanisation – Impacts of Urbanisation (10 hours)

Unit-3: Resources (35 hours)

Agriculture: Landuse and Special Economic Zones, Crop Pattern and Production, Location Model of Von Thunen (10 hours)

Livestock: Development and Distribution – Dairying, Meat and Woolen (6 hours)

Fisheries: Major Fishing grounds of the World – Production and Trade (5 hours)

Forest: Types, Distribution and Forest Products – Wild Life (6 hours)

Minerals: Metallic (Iron Ore, Copper) – Non-metallic (Limestone and Mica) – Fuels (Coal and Petroleum) – Locations and Potentials – Mining and Trade (8 hours)

Unit-4: Industry, Transport and Trade (30 hours)

Industry: Locational Factors, Industrial location theory of Weber – Major industries (Iron and Steel, Cotton and Textile, Ship building) – Industrial Regions of the World (15 hours)

Transport: Roadways, Railways, Waterways and Airways (8 hours)

Trade: International Trade, Major Exports and Imports, Balance of Trade – WTO and Developing Countries (7 hours)

SECOND YEAR B.A. / B.Sc. GEOGRAPHY PRACTICAL – SYLLABUS

WORKLOAD PARTICULARS

PRACTICAL – II : MAPS AND DIAGRAMS (90 hours per annum)

4. Data: Primary and Secondary – Classification (6 hours)
5. Diagrams: (i) One Dimensional: Line Graph – Poly Graph – Bar Graph – Pyramid Graph – Simple and Compound Diagram, Pie Diagram (32 hours)
(ii) Two Dimensional: Squares and Rectangles (10 hours)
(iii) Three dimensional: Spheres and Blocks (10 hours)
(iv) Climatic Diagrams: Climo Graph, Hyther Graph, Wind Rose (6 hours)
6. Maps: i) Thematic Maps: Class intervals – Choropleth – Isopleth – Choroschematic – Dot Maps – Flow Maps (20 hours)
(ii) Flow Chart (6 hours)

THIRD YEAR SYLLABUS OF B.A / B.Sc. GEOGRAPHY

WORKLOAD PARTICULARS

PAPER – III : REGIONAL GEOGRAPHY OF INDIA (90 hours per annum)

UNIT-1:Physical Setting (25 hours)

Locational aspects and advantages (3 hours) – Major physical divisions (5 hours) – Drainage system (3 hours) - Climate – Mechanism of Indian monsoons – Drought prone and Flood prone regions (8 hours) – Natural vegetation (3 hours) – Soil types (3 hours)

UNIT-2:Cultural Settings (20 hours)

Racial and ethnic diversities - Major tribes – Language - Religion and Tradition and Cultural regions (6 hours)
Population – Growth, distribution, Sex-ratio, Age-structure, problems and policies, Literacy rate – Work-force – Migration (10 hours)
Settlement Patterns – Rural and Urban Growth – Urbanisation (4 hours)

UNIT-3:Economic Settings (30 hours)

Resources - Land, Water, Energy (Coal and Petroleum; Hydel, Thermal, Atomic and wind), Minerals (Iron ore, Manganese, Copper, Mica) – utilization and conservation (6 hours);
Agriculture - Types (subsistence and commercial; intensive and extensive and plantation), Irrigation, Land tenure and Land reforms, Cropping pattern and Green revolution, Livestock and White revolution, Aquaculture, Problems of Indian Agriculture (10 hours)
Industry – Study of Iron and Steel, Cotton textiles, and Oil refineries, and Industrial regions (8 hours)
Transport – Road ways, Railways, Water ways, Airways – Growth and distribution (4 hours)
Regional Development: Regions – Sharing of Resources – Efforts of Five Year Plans (2 hours)

UNIT-4:Andhra Pradesh (15 hours)

Physical aspects – Relief, Drainage, Climate, Vegetation and Soils (5 hours)
Resource base – Fuel and mineral wealth (3 hours)
Population – Growth and distribution, Rural and Urban population, Urbanization (4 hours)
Agriculture: Irrigation development, Major irrigation projects, Cropping pattern, Production and Potentials (3 hours)

THIRD YEAR B.A./B.Sc. GEOGRAPHY PRACTICAL – SYLLABUS

WORKLOAD PARTICULARS

PRACTICAL –III : PROJECTIONS AND FIELD SURVEY AND STUDY (90 hours per annum)

Projections: Constructions and Uses (2 hours)

Conical Projections: One Standard Parallel, Two Standard Parallel, Bonne's (12 hours) Cylindrical Projections: Equal area, Equal distant, Mercator (14 hours)

Zenithal Projections (Polar cases only): Stereographic, Gnomonic, Zenithal

Equidistant and Equal Area (20 hours)

Conventional: Mollweide, Sinusoidal (10 hours)

FIELD SURVEY

- v) Chain Survey: Triangulation Method –Closed Traverse & Open Traverse (4 hours)
- vi) Prismatic Compass Survey: Open and Closed Travers – Intersection method (4 hours)
- vii) Plane Table Survey: Intersection method (4 hours)
- viii) Village / Urban Study: Socio-economic or Physiographic study – Educational Tour: Observations, Measurements, Interviews, data collection, data Analysis, Report Writing (20 hours)

THIRD YEAR B.A./B.Sc. GEOGRAPHY PRACTICAL – SYLLABUS

WORKLOAD PARTICULARS

PAPER IV: REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEMS(GIS)

(90hours per annum)

UNIT – I : Remote Sensing (20 hours)

Basics of Remote Sensing: Definition, History, Advantages
Aerial Photography and Satellite Remote Sensing (6 hours)

Components of Remote Sensing System:

Energy Source, Energy-Atmosphere Interaction, Energy-Matter Interaction,
Platforms, Sensors, Data handling system, Data Users (4 hours)

Energy Interaction with Atmosphere and Surface Materials:

Nature of Electromagnetic Radiation – Electromagnetic Radiation Spectrum
Interaction of Electromagnetic Radiation with Atmosphere and with Earth Surface
Materials – Spectral Signatures (10 hours)

UNIT – II : Remote Sensing: Platforms and Sensors and Products (25 hours)

Remote Sensing Platforms: Aircrafts and Satellites

Orbital Characteristics of Sun-synchronous Earth Resource Satellites and Geostationary
Communication – Special Purpose Satellites (5 hours)

Remote Sensing Sensors:

Types of Sensors: Active and Passive – Framing Systems (Cameras) – Scanning Systems (3
hours)

Sensor Characteristics: Spatial Resolution, Spectral Resolution, Radiometric Resolution,
Temporal Resolution (4 hours)

Cameras: Single Lens, Multiple Lens, Strip and Digital – Films and Filters (4 hours)

Scanners: Cross-track Vs. Along-track – Mono-Spectral Vs. Multi-Spectral Scanners (4
hours)

Products: Visual and Digital (2 hours)

Remote Sensing in India: Development and Growth – Satellites (3 hours)

UNIT – III: Geographic Information Systems (GIS) (25 hours)

GIS: Definition – Contributing Disciplines – Functions – Data Capture/Input, Data Storage,
Data Retrieval, Data Analysis, Data Output (8 hours)

Components of Geographic Information Systems: Hardware Components, Software
Components, Brain-ware Components and Organizational set up (6 hours)

Data Input and Editing: Data Types: Spatial and Attribute data – Raster and Vector
Sources of GIS data (6 hours)

Methods of Data input (Keyboard Entry, Digitizing, Scanning) – GPS and Its Application (5 hours)

UNIT - IV : Geographic Information Systems (20 hours)

Data Base Management System: Definitions and Functions (2 hours)

Data Analysis and Modeling:

Data Conversion (Format, Structure, and Medium Conversion)

Spatial Measurements (Counting, Measuring lengths and Areas)

Reclassification, Buffering (Point, Line, Area, Doughnut),

Overlay Analysis (10 hours)

Modeling Surfaces (DTMs) (2 hours)

Modeling Networks (2 hours)

Remote Sensing and GIS: Integration – GIS Application (Urban / Agricultural / Landform Studies) (4 hours)

THIRD YEAR B.A./B.Sc. GEOGRAPHY PRACTICAL – SYLLABUS

WORKLOAD PARTICULARS

PRACTICAL IV : GIS AND REMOTE SENSING (90 hours per annum)

Unit I : GIS (45 hours)

8. Scale of Measurement: Nominal, Ordinal, Interval, Ratio (6 hours)
9. Data Mode: Spacial Data (Location: Point, line, polygon; attributes; time), Creating a Vector Data, Creating a Raster Data, Raster Data Values, Spacial Relations (point-point, point-line, point-area, line-line, line-area, area-area) (18 hours)
10. Data Input: Manual, Digitising, Scanning (9 hours)
11. Raster and Vector GIS Capabilities: Display, Query, Overlay, Buffering (12 hours).

Unit II: Remote Sensing (45 hours)

12. Air Photographs and Satellite Imageries: Describing the Marginal Information (10 hours)
13. Air Photo Interpretation: Using Stereoscope, Stereoscopic Vision Test, Flightline Marking, Landuse Mapping, Relief and Drainage Mapping (20 hours)
14. Imagery Interpretation: Visual Methods – Mapping of Landuse / Land Cover / Drainage (15 hours)