

B.A GEOGRAPHY

CHOICE BASED CREDIT SYSTEM (CBCS)



TELANGANA UNIVERSITY
DICHPALLY, NIZAMABAD

Scheme for CBCS in BA Geography

Course Type	Course Title	Hours per Week	No. of Credits
Semester - I			
DSC 1	Elements of Geomorphology	4 T	4
Practical-I	Elements of Mapping and Interpretation	3 P	1
Semester - II			
DSC 2	Elements of Climatology and Oceanography	4 T	4
Practical – II	Basic statistics and weather maps	3 P	1
Semester - III			
DSC 3	Human Geography	4 T	4
Practical – III	Maps and Diagrams	3 P	1
SEC - 1	UGC Specified SEC	2	2
SEC - 2	Travel And Tourism	2	2
Semester - IV			
DSC 4	Economic Geography	4 T	4
Practical – IV	Map Projections	3 P	1
SEC - 3	UGC Specified SEC	2	2
SEC - 4	Remote Sensing and GPS	2	2
Semester - V			
DSE	(A) Principles of Remote Sensing (B) Geography of India	4 T	4
Practical-V	(A) Remote Sensing Lab (B) Data and Sampling Lab	3 P	1
GE	Climate Change and Disaster Management	4 T	4
Semester- VI			
DSE	(A) Geographical Information System (GIS) (B) Geography of Telangana	4 T	4
Practical-VI:	(A) GIS Lab (B) Field Survey Techniques	3 P	1
PW	Project work/Optional	4 P	4
Total		40 T + 18 P	46

B. A. I year Semester wise Syllabus (2024-25)

Subject: Geography

Semester – I

Paper - I: Elements of Geomorphology

COURSE OBJECTIVES:

While studying the **Processes of Geomorphology**, the student shall be able to:

- To familiarize the students with the need for understanding of geomorphology with reference to certain fundamental concepts.
- To identify process component of geomorphology is segmented into the internal and external processes of landscape evolution.
- To find out selected applications of geomorphology to societal requirements and quality of environment.

COURSE OUTCOMES:

After completion of the **Processes of Geomorphology**, the student will be able to:

- Familiarize the students with the need for understanding of geomorphology with reference to certain fundamental concepts.
- Process component of geomorphology is segmented into the internal and external processes of landscape evolution.
- Finally, a few selected applications of geomorphology to societal requirements and quality of environment are dealt with.

UNIT-I:

1. Land and Sea: Formation and distribution
2. Theories: Isostasy, Continental Drift, Plate Tectonics

UNIT-II:

3. Interior of Earth, Earthquakes, Volcanoes and Rocks
4. Weathering and Mass-wasting

UNIT-III:

5. Fluvial Landforms: Erosion and Depositional
6. Aeolian landforms: Erosion and Depositional

UNIT-IV:

7. Karst topography: Erosion and Depositional
8. Glacial topography: Erosion and Depositional
9. **Marine topography: Erosion and Depositional**

Basic Texts:

1. Critchfield (1997): General Climatology, Prentice Hall of India, New Delhi.
2. Strahler A. H. and Strahler A.N. (1971): Physical Geography, Willey eastern, New Delhi.
3. Trewartha (1968): An Introduction to Climate, Mc Graw Hill, New Delhi.

Additional Texts:

4. Tikka R. N. (1999): Physical Geography, Kedarnath & Ramnath &Co., Meerut.
5. Dasgupta and Kapoor (1998): Physical Geography, Chand & Co., New Delhi.
6. Lal, D.S. (1996): Climatology, Chaitanya Publishing House, Allahabad.
7. Savinder Singh (2013): Geomorphology, Prayag Pustak Bhavan, Allahabad.
8. Sparks B.W. (1965): Geomorphology, Brill Academic Publishers.

B. A. I year Semester wise Syllabus (2024-25)**Subject: Geography****PRACTICAL – I: ELEMENTS OF MAPPING**

1. Types of Maps: Cadastral, Topographical, Atlas, General Maps, Thematic Maps.
2. Construction of scale: simple, diagonal and comparative.
3. Relief features of geological landforms and profile drawing (serial, superimposed, projected and composite).
4. Map reading and Interpretation of topographical sheets.

Basic Texts

1. Monkhouse F. J. and Wilkinson H. R. (1968): Maps and Diagrams, Methuen, London.
2. Mishra 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.

B. A. I year Semester wise Syllabus (2024-25)
Subject: Geography
Semester – II
Paper - II: Climatology and Oceanography

COURSE OBJECTIVES:

While studying the **Climatology and Oceanography**, the student shall be able to:

- To understand the concept of climatology and its relation to Metrology
- To understand the atmospheric circulations and Meteorological Hazards and Disasters
- Understand in details with application, if applicable, relief of the ocean floor
-

COURSE OUTCOMES:

After completion of the **Climatology and Oceanography**, the student will be able to:

- Understanding the basic concept of climatology and its relation to Metrology
- Understanding the atmospheric circulations and Meteorological Hazards and Disasters
- Understanding the concepts of oceanography and oceanic water movement.

UNIT-I: (Climatology)

1. Atmosphere: Structure and Composition
2. Insolation: Factors influencing the incidence and distribution
3. Temperature: Horizontal and Vertical Distribution
4. Pressure: Influencing factors – High and Low Pressure Areas, Global Pressure Belts

UNIT-II:

5. Winds: Local, Periodic and Planetary
6. Cyclones – Formation, Distribution and Impacts: Tropical and Temperate
7. Humidity: Absolute and Relative
8. Clouds: Types, Formation and Potentials
9. Precipitation: Types, Formation, Distribution

UNIT-III: (Oceanography)

10. Submarine Relief: Continental Shelf, Continental Slope, Abyssal Plain, Ocean Deeps and Trenches, Mid-Oceanic ridges
11. Temperature: Horizontal and Vertical Distribution
12. Salinity: Factors and Distribution

UNIT-IV:

13. Waves and Tides: Types and Formation
14. Ocean Currents: Types and Factors Responsible - Currents of Atlantic, Pacific and Indian Oceans
15. Ocean deposits – Types and Distribution
16. Marine Resources and **Marine Pollution**

Reference Books:

1. Cole and King (1975): Oceanography for Geographers, E. Arnold, London.
2. Ken Briggs (1985): Physical Geography: Process and System, Holder and Stoughton, London.
3. Rice R.J. (1996): Fundamentals of Geography Addison – Wesley.
4. Sharma, R.C. and Vatal M. (1997): Oceanography for Geographers, Chaitanya Publishing House, Allahabad.

B. A. I year, Revised Semester wise Syllabus (2024-25) **Subject: Geography**

PRACTICAL – II: BASIC STATISTICS AND WEATHER MAPS

1. Sources of data; classification and Tabulation of data.
2. Central Tendencies – Mean, Median and Mode
3. Measures of Dispersion - Mean Deviation and Standard deviation
4. Correlation (Karl Pearson and Spearman).
5. Weather Map: Weather symbols and Interpretation of Indian daily weather maps (July, October and January).

REFERENCES:

1. Aslam Mohmood: Statistical Methods in Geographical Studies. Rajesh Publication, New Delhi.
2. Singh, L.R. (2006): Practical Geography, Sharada Pustak Bhavan.
3. Gregory, S (1963): Statistical Methods and the Geographer, Longmans, London
4. King, L.J.: Statistical Analysis in Geography, Prentice Hall, Englewood Cliffs, New Jersey.
5. Zamir, A. (2002): Statistical Geography: Methods and Applications, Rawat Publications, Jaipur.
6. Monkhouse, F. J. and Wilkinson, F.J. (1985): Maps and Diagrams. Methuen, London
7. Sarkar, A. K. (1997): Practical Geography: A Systematic Approach. Orient Longman, Kolkata.

B. A. II year Semester wise Syllabus (2024-25)

Subject: Geography

Semester – III

Paper – III: Human Geography

COURSE OBJECTIVES:

- Learn the details of human geography importance, human activities and interaction between man and environment.
- Deliberate in details with examples races of mankind's
- Specify the details of cultural realms, population growth and demographic transition study
- Understand in details of human migration causes and consequences, human settlements and urbanization study

COURSE OUTCOMES:

- Understanding human activities and interaction between man and environment.
- Understanding the races of mankind and their characteristics
- Understanding the details of cultural realms, population growth and demographic transition
- Understanding human migration causes and consequences, human settlements and urbanization

UNIT-I:

1. Nature and objectives of Human Geography
2. Man and Environment- Physical and Cultural environment

UNIT-II:

3. Human Activities – Primary, Secondary, Tertiary and Quaternary
4. Resources- Classification, Conservation, Utilization and Management, Sustainability

UNIT-III:

5. Human Races- Origin, Classification, Characteristics and Distribution
6. Cultural Realms of the World
7. Population-World population, Growth and Distribution, Demographic Transition.

UNIT-IV:

8. Human Migration- Types, Causes and Consequences of migration, Indian Diaspora.
9. Human Settlements: Forms, Structure, Functions and Patterns, Rural and Urban Settlements.
10. Urbanization- Impacts of Urbanization. **Urbanization in Indian Diaspora.**

REFERENCES:

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 Text Books:

4. Majid Hussain (1999): Human Geography, Rawat Publications, Jaipur.
5. Ghosh B.N. (1995): Fundamentals of Population Geography, Sterling Publishers, Bangalore.
6. Guha J.L. and Chatoraj P.R. (1978): Economic Geography, World Press, Kolkata.
7. Bhende A.A. & Kanitkar T. (2006): Principles of Population Studies, Himalaya Publishing House, Hyderabad.

B. A. II year Semester wise Syllabus (2024-25)
Subject: Geography
Semester – III

Practical – III: Maps and Diagrams

1. Diagrams:
 - i. One Dimensional: Line Graph, Poly Graph, Bar Graph, Pyramid Graph, Pie Diagram.
 - ii. Two Dimensional: Squares and Rectangles.
 - iii. Three dimensional: Spheres and Blocks. Climatic Diagrams: Climo Graph, Hyther Graph, Wind Rose.
2. Maps:
 - i. Thematic Maps: Class intervals, Choropleth, Isopleth, Dot Maps, Flow Maps.

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

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.

B. A. II year Semester wise Syllabus (2024-25)

Subject: Geography

Semester – III

Skill Enhancement Course

SEC– 2: Travel and Tourism

COURSE OBJECTIVES:

- familiarize students with the basic concepts of travel and tourism
- give an insight into how travel and tourism evolved over a period of time and reached the modern stage.
- enhance the knowledge of students in various areas related to tourism and how it affects the destination.
- explore the selected issues that currently influence the tourism industry both locally and globally.

LEARNING OUTCOMES:

- understand fundamentals of tourism from the management, marketing and financial perspectives.
- understand the concepts of travel and tourism, the framework of the system, types and form of tourism as well as the impacts of tourism.
- describe the different types tourism resources of India, their importance in tourism and management.

UNIT-I:

1. Types of Tourism – Nature Tourism, Cultural Tourism, Medical Tourism, Pilgrimage.
2. Recent Trends of Tourism – International and Regional, Domestic (India), Eco-Tourism, Sustainable Tourism, Meetings, Incentives, Conventions and Exhibitions (MICE).

UNIT-II:

3. Travel Formalities – Travel Agency and Tour Operation Business, Functions.
4. Tourism in India: Tourism Infrastructure; Case Studies of Himalayas, Desert and Coastal and Heritage, National Tourism Policy.
- 5.

Reading List:

1. Dhar, P.N. (2006) International Tourism: Emerging Challenges and Future Prospects, Kanishka, New Delhi.
2. Hall, M. and Stephen, P. (2006) Geography of Tourism and Recreation – Environment, Place and Space, Routledge, London.

3. Kamra, K. K. and Chand, M. (2007) Basics of Tourism: Theory, Operation and Practise, Kanishka Publishers, Pune.
4. Page, S.J. (2011) Tourism Management: An Introduction, Butterworth Heinemann – USA, Chapter 2.
5. Raj, R. and Nigel, D. (2007) Morpeth Religious Tourism and Pilgrimage Festivals Management: An International Perspective by, CABI, Cambridge, USA.

B. A. II year Semester wise Syllabus (2024-25)

Subject: Geography

Semester – IV

Paper - IV: Economic Geography

COURSE OBJECTIVES:

- Understand in details with application of concepts, patterns of development
- Learn in details the characteristics of primary activities
- Understand in details with applications of the mineral and power resources.
- Study of the factors for location of industries on steel, cotton, textile and ICT.
- Study of world transportation and trade patterns and transport.

COURSE OUTCOMES:

UNIT-I:

- Understanding the concepts, patterns of development
 - Learning the characteristics of primary activities
 - Understanding the mineral and power resources.
 - Learning the factors for location of industries on steel, cotton, textile and ICT.
 - Understanding world transportation and trade patterns and transport.
1. Definition, Approaches and Fundamental Concepts, Patterns of Development.
 2. Types of Agriculture: Land use, Cropping Patterns and Production, Location Model of Von Thunen.
 3. Livestock- Development and Distribution, Animal Products (Dairying, Meat and Wool).

UNIT-II:

4. Fisheries: Major Fishing areas of the World, Production and Trade and **Aquaculture**.
5. Forest: Types and Distribution, Forest Products, Wild Life.
6. Minerals: Metallic (Iron ore, Copper), Non-metallic (Limestone and Mica), Fuel (Coal, Petroleum and Natural Gas).

UNIT-III:

7. Industries: Locational Factors, Weber's Industrial Location Theory.
8. Major Industries: Iron & Steel, Cotton Textiles and Information and Communication Technology Industry.
9. Industrial Regions of the World- Changing pattern.

UNIT-IV:

10. Transport: Roadways, Railways, Waterways and Airways.
11. Trade: International Trade, Major Imports and Exports, Balance of Trade.

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.

B. A. II year, Revised Semester wise Syllabus (2024-25)
Subject: Geography

Practical – IV: Map Projections

1. Constructions and Uses.
2. Conical Projections: One Standard Parallel, Two Standard Parallel.
3. Bonne's Cylindrical Projections: Equal area, Equal distant.
4. Zenithal Projections (Polar cases only): Stereographic, Gnomonic, Zenithal Equidistant and Equal Area.

Basic Texts:

1. Monkhouse F. J. and Wilkinson M. R. (1963): 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.

B. A. II year Semester wise Syllabus (2024-25)

Subject: Geography

Semester – IV

SEC - 4: Remote Sensing and GPS

COURSE OBJECTIVES:

While studying the **Remote Sensing**, the student shall be able to:

- To understand the various platforms and Characteristics
- To understand the various types of data and processing of remote sensing
- To understand about the Light Detection and Ranging (LiDAR).

COURSE OUTCOMES:

After completion of the **Remote Sensing**, the student will be able to:

- Understanding the various platforms and Characteristics
- Understanding the various types of data and processing of remote sensing
- Understanding about the Light Detection and Ranging (LiDAR).

Unit - I

1. Remote Sensing: Definition, Development, Platforms and Types.
2. Satellite Remote Sensing: Principles, EMR Interaction with Atmosphere and Earth Surface; Satellites (Landsat and IRS) and Sensors.

Unit - II

3. Interpretation and Application of Remote Sensing: Land use/ Land Cover.
4. Global Positioning System (GPS) – Principles and Uses

Reading List

1. Campbell J. B., 2007: *Introduction to Remote Sensing*, Guildford Press.
2. Jensen J. R., 2004: *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall.
3. Joseph, G. 2005: *Fundamentals of Remote Sensing*, United Press India.
4. Lillesand T. M., Kiefer R. W. and Chipman J. W., 2004: *Remote Sensing and Image Interpretation*, Wiley. (Wiley Student Edition).
5. Nag P. and Kudra, M., 1998: *Digital Remote Sensing*, Concept, New Delhi.
6. Rees W. G., 2001: *Physical Principles of Remote Sensing*, Cambridge University Press.
7. Singh R. B. and Murai S., 1998: *Space-informatics for Sustainable Development*, Oxford and IBH Pub.
8. Wolf P. R. and Dewitt B. A., 2000: *Elements of Photogrammetry: With Applications in GIS*, McGraw-Hill.

B. A/B.Sc. III year, Revised Semester wise Syllabus (2024-25)

Subject: Geography

Semester – V

Paper – V: (A) PRINCIPLES OF REMOTE SENSING

COURSE OBJECTIVES:

- ✚ Learn in details the concepts of aerial photography and satellite remote sensing, the interaction of electromagnetic radiation with atmospheric and terrestrial features;
- ✚ Identify remote sensing platforms, study the orbital characteristics and types of sensors;
- ✚ Critically examine the characteristics of spatial, spectral, radiometric and temporal resolution of remotely sensed data;
- ✚ Understand in details the remote sensing products, growth and development of remote sensing in India.

COURSE OUTCOMES:

- ✚ Learning the concepts of aerial photography and satellite remote sensing, the interaction of electromagnetic radiation with atmospheric and terrestrial features;
- ✚ Understanding remote sensing platforms, study the orbital characteristics and types of sensors;
- ✚ Understanding the characteristics of spatial, spectral, radiometric and temporal resolution of remotely sensed data;
- ✚ Learning details of remote sensing products, growth and development of remote sensing in India.

UNIT-I:

1. Basics of Remote Sensing: Definition, History, Advantages, Aerial Photography and Satellite Remote Sensing.
2. Elements of Remote Sensing System: Energy Source - Energy-Atmosphere Interaction, Energy-Matter Interaction and Surface Materials.
3. Electromagnetic spectrum and Spectral Signatures.

UNIT- II:

4. Remote Sensing Platforms: Aircrafts and Satellites.
5. Orbital Characteristics of Sun-synchronous Earth Resource Satellites and Geostationary Communication - Special Purpose Satellites.
6. Remote Sensing Sensors: Types of Sensors, Active and Passive

UNIT- III

7. Sensor Characteristics: Spatial Resolution, Spectral Resolution, Radiometric Resolution and Temporal Resolution.
8. Multi Spectral Scanners: Across-track (whiskbroom scanner) and Along track (Push broom Scanner)
9. **Basics concept and principles of thermal, microwave and hyper spectral sensing.**

UNIT- IV

10. **Elements of Visual interpretation techniques and digital image analysis**
11. Remote sensing Products: Visual and Digital.
12. Remote Sensing in India: Development and Growth – **IRS Satellites.**

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. Anji Reddy M. (2006): A Text Book of Remote Sensing and Geographical Information Systems, B. S. Publications, Hyderabad.

B. A. III year, Revised Semester wise Syllabus (2024-25)

Subject: Geography

Semester – V

Paper – V: (B) GEOGRAPHY OF INDIA

COURSE OBJECTIVES:

While studying the **Geography of India**, the student shall be able to:

- To introduce the students the diverse physiographic, climate and landscape of India
- To learn about the resource like minerals, water, vegetation, ecosystem
- Identify the classification and characteristics of Population density and distribution
- To help students to get knowledge on economic, social and cultural setup of this country

COURSE OUTCOMES:

After completion of the **Geography of India**, the student will be able to:

- Introducing the students, the diverse physiographic, climate and landscape of India
- Learning about the resource like minerals, water, vegetation, ecosystem
- Helping the students to get knowledge on economic, social and cultural setup of this country
- Specify the characteristics of Transportation modes

Unit-I

1. Major physical divisions
2. Drainage system
3. Climate – Mechanism of Indian monsoons
4. Natural vegetation
5. Soil types

Unit-II

6. Population – Growth pattern and distribution
7. Settlement Patterns – Rural and Urban Growth, Urbanization and trends

Unit-III

8. Agriculture: Irrigation sources, Agriculture – Types & Production (Rice, Wheat, Sugarcane, Cotton, Tea & Coffee).
9. Livestock (cattle and fisheries) and **White revolution**

Unit-IV

10. Resource base: Power production (Hydel, Thermal and Atomic), Minerals (iron ore & bauxite) Energy (Coal and Petroleum), Minerals (iron ore and bauxite)
11. Industry – (Cotton Textile, Iron-Steel, Automobile & Information technology).
12. Transport & trade – Road ways, Railways, Water ways, Airways - Growth and distribution & major imports and exports.
13. **Tourist places in India**

Reading List

1. Hussain M., 1992: *Geography of India*, Tata McGraw Hill Education.
2. Mamoria C. B., 1980: *Economic and Commercial Geography of India*, Shiva Lal Agarwala.
3. Miller F. P., Vandome A. F. and McBrewster J., 2009: *Geography of India: Indo-Gangetic Plain, Thar Desert, Major Rivers of India, Climate of India, Geology of India*, Alphascript Publishing.
4. Nag P. and Sengupta S., 1992: *Geography of India*, Concept Publishing.
5. Pichamuthu C. S., 1967: *Physical Geography of India*, National Book Trust.
6. Sharma T. C. and Coutinho O., 1997: *Economic and Commercial Geography of India*, Vikas Publishing.
7. Singh Gopal, 1976: *A Geography of India*, Atma Ram.

B. A. III year, Revised Semester wise Syllabus (2024-25)

Subject: Geography

Semester – V

PRACTICAL -V (A): REMOTE SENSING LAB

1. Air Photographs and Satellite Imageries: Describing the Marginal Information
2. Aerial photographs Scale calculation
3. Area Measurement from aerial photographs
4. Air Photo Interpretation: Drawing Flight line, Landuse Mapping, Relief and Drainage Mapping using Stereoscope
5. Image Interpretation: Visual methods, Mapping of Landuse, Land Cover, Drainage Network.

PRACTICAL -V (B): DATA AND SAMPLING LAB

1. Classification of data
2. Methods of data collection
3. Data analysis techniques
4. Types of sampling
5. Probability and non-probability sampling

Basic Texts:

1. Clarke, Keith C. (1999): Getting Started with Geographic Information Systems, Prentice Hall, New Jersey.
2. Kang-Tsung-Chang (2003): Geographic Information Systems, Tata Mc Graw Hill, New Delhi.
3. Michael F. Goodchild and Karen K. Kemp (1990): Introduction to GIS, National Centre for Geographic Information and Analysis, University of California, Santa Barbara.
4. Monkhouse F. J. and Wilkinson M. R. (1963): Maps and Diagrams, Methuen. London.
5. Misra R. P. and Ramesh A. (1989): Fundamentals of Cartography, Concept, New Delhi.
6. Robinson A. H. (1995): Elements of Cartography, John Willey. New York.

Additional Texts:

1. Anji Reddy M. (2006): A Text Book of Remote Sensing and Geographical Information Systems. B.S. Publications, Hyderabad.
2. DeMers Michel N. (1997): Fundamentals of Geographic Information Systems, John Wiley and Sons, New York.
3. Lillisand T. M. and R.W. Kiefer (1997): Remote Sensing and Image Interpretation, John Wiley and Sons, New York.
4. Gopal Singh (1996): Map work and Practical Geography, Vikas Publishing, New Delhi.
5. Negi B.S. (1998): Practical Geography, Kedarnath and Ramnath, Meerut.

B. A. III year, Revised Semester wise Syllabus (2024-25)

Subject: Geography

Semester – VI

Generic Elective (GE 1)

Climate Change and Disaster Management

COURSE OBJECTIVES:

While studying the **Climate Change and Disaster management**, the student shall be able to:

- To understand the foundational concepts of climate change and its impacts.
- To assess the human and environmental vulnerability to climate change.
- To learn the various adaptation and mitigation for reducing the impacts of climate change and national action plan.

COURSE OUTCOMES:

After completion of the **Climate Change and Disaster management**, the student will be able to:

- Understanding the foundational concepts of climate change and its impacts.
- Assessing the human and environmental vulnerability to climate change.
- Learning the various adaptation and mitigation for reducing the impacts of climate change and national action plan.

Unit - I

1. Science of Climate Change: Understanding Climate Change; Green House Gases and Global Warming; Global Climatic Assessment- IPCC
2. Climate Change and Vulnerability: Physical Vulnerability; Economic Vulnerability;
Social Vulnerability.

Unit - II

3. Impact of Climate Change: Agriculture and Water; Flora and Fauna; Human Health
4. Adaptation and Mitigation: Global Initiatives with Particular Reference to South Asia; National Action Plan on Climate Change; Local Institutions (Urban Local Bodies, Panchayats).

Unit – III

5. Disasters: Definition and Concepts: Hazards, Disasters; Risk and Vulnerability;
6. Disasters in India: Earthquakes, Tsunami, Cyclones, Floods and Drought: Causes, Impact, Distribution and Mapping.

Unit – IV

7. Landslides and Manmade disasters: Causes, Impact, Distribution and Mapping.
8. Response and Mitigation to Disasters: Mitigation and Preparedness, NDMA and NIDM. Indigenous Knowledge and Community-Based Disaster Management; Do's and Don'ts During Disasters.

Reading List

1. Kapur, A. (2010) *Vulnerable India: A Geographical Study of Disasters*, Sage Publication, New Delhi.
2. Modh, S. (2010) *Managing Natural Disaster: Hydrological, Marine and Geological Disasters*, Macmillan, Delhi.

3. Singh, R.B. (2005) *Risk Assessment and Vulnerability Analysis*, IGNOU, New Delhi. Chapter 1, 2 and 3
4. Singh, R. B. (ed.), (2006) *Natural Hazards and Disaster Management: Vulnerability and Mitigation*, Rawat Publications, New Delhi.
5. Sinha, A. (2001). *Disaster Management: Lessons Drawn and Strategies for Future*, New United Press, New Delhi.
6. Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) *Climate change and biodiversity: Proceedings of IGU Rohtak Conference, Volume 1. Advances in Geographical and Environmental Studies*, Springer
7. Sen Roy, S. and Singh, R.B. (2002) *Climate Variability, Extreme Events and Agricultural Productivity in Mountain Regions*, Oxford.

B. A. III year, Revised Semester wise Syllabus (2024-25)

Subject: Geography

Semester – VI

Paper – VI: (A) GEOGRAPHIC INFORMATION SYSTEM (GIS)

Course outcomes:

- ✚ Understand in details what is GIS; the functions and components of GIS, study of spatial and non-spatial data;
- ✚ understand how data is stored in computer and applications of Global Positioning System (GPS);
- ✚ Learn in details of spatial analysis of measurements, buffering and modeling surfaces etc.
- ✚ Understand in details with applications, integration of RS and GIS.

UNIT -I:

1. GIS: Definition, Functions - Data Capture / Input, Data Storage, Data Retrieval, Data Analysis, Data Output.
2. Components of Geographic Information Systems: Hardware, Software, People, Data and Organizational set up.
3. Data Types and data Structure (Raster and Vector Model)

UNIT- II:

4. Methods of Data input (Keyboard Entry, Digitizing, Scanning),
5. Database Base Management System: Definition and Functions.
6. Spatial Data Analysis and Modeling – Raster and vector data analysis

7. UNIT- III

8. Buffering (Point, Line and Area).
9. Overlay Analysis.
10. Surface Modeling (DEM /DTM and TIN).

UNIT- IV

11. Network Modeling.
12. RS and GIS Integration, GIS Applications
13. Introduction to GNSS and its Applications.

Basic Texts:

1. Clarke, Keith C. (1999): Getting Started with Geographic Information Systems, Prentice Hall, New Jersey.
2. Kang-Tsung-Chang (2003): Geographic Information Systems, Tata Mc Graw Hill, New Delhi.
3. 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:

6. Anji Reddy M. (2006): A Text Book of Remote Sensing and Geographical Information Systems. B.S. Publications, Hyderabad.
7. DeMers Michel N. (1997): Fundamentals of Geographic Information Systems, John Wiley and Sons, New York.
8. Lillisand T. M. and R.W. Kiefer (1997): Remote Sensing and Image Interpretation, John Wiley and Sons, New York.

B. A. III year, Revised Semester wise Syllabus (2024-25)

Subject: Geography

Semester – VI

Paper VI: (B) Geography of Telangana

COURSE OBJECTIVES:

While studying the **Geography of Telangana**, the student shall be able to:

- To introduces the students the diverse physiographic, climate and landscape of Telangana
- To learn about the resource like minerals, water, vegetation, ecosystem
- Identify the classification and characteristics of Population density and distribution
- To help students to get knowledge on economic, social and cultural setup of this state

COURSE OUTCOMES:

After completion of the **Geography of Telangana**, the student will be able to:

- Introducing the students, the diverse physiographic, climate and landscape of Telangana
- Learning about the resource like minerals, water, vegetation, ecosystem
- Helping the students to get knowledge on economic, social and cultural setup of this state
- Specify the characteristics of Transportation modes of state

Unit-I

1. Major physical divisions
2. Drainage system
3. Climate – Mechanism of Indian monsoons
4. Natural vegetation
5. Soil types

Unit-II

6. Population – Growth pattern and distribution
7. Settlement Patterns – Rural and Urban Growth, Urbanization and trends

Unit-III

8. Agriculture: Irrigation sources, Agriculture – Types & Production (Rice, Cotton and ground nut) and Misssion Kakatiya.
9. Livestock (cattle and fisheries)

UNIT IV

10. Resource base: Minerals (iron ore & limestone) Energy (Coal and Hydroelectricity)
11. Industry – (Cotton Textile, cement industry & Information technology).
12. Transport – Road ways, Railways, Airways.

REFERENCES:

1. Rao, Ch and Mahendra Dev S (eds.) (2003): Andhra Pradesh Development: Economic Reforms and Challenges, CESS, Hyderabad-16
2. Planning Atlas of Andhra Pradesh, Department of Geography, Osmania University

3. Economic Survey of Andhra Pradesh, Planning Department.
4. Government of Andhra Pradesh Planning Department: Perspective Plans for Telangana, Coastal Andhra and Rayalaseema in (1997).
5. Fifty years of Andhra Pradesh (1956-2005): Centre for Documentation, Research and Communications (2008).
6. Statistical Year book-2015, Telangana, Directorate of Economics & statistics.

B. A. III year, Revised Semester wise Syllabus (2024-25)

Subject: Geography

Semester – VI

PRACTICAL -VI (A): GIS LAB (1 credit)

1. Data types: Spatial and Non-spatial
2. Georeferencing and Digitizing
3. Spatial data creation- point, line and polygon
4. Overlay analysis (point in polygon, line in polygon and polygon in polygon)
5. Buffering (Point, line and area)

PRACTICAL -VI (B): SURVEYING TECHNIQUES (1 Credit)

1. Classification of surveying
2. Chain survey: Triangulation method, open & closed traverse.
3. Plane table survey: intersection method
4. Prismatic compass survey: open & closed traverse, intersection method

Basic Texts:

1. Clarke, Keith C. (1999): Getting Started with Geographic Information Systems, Prentice Hall, New Jersey.
2. Kang-Tsung-Chang (2003): Geographic Information Systems, Tata Mc Graw Hill, New Delhi.
3. 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:

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5. DeMers Michel N. (1997): Fundamentals of Geographic Information Systems, John Wiley and Sons, New York.
6. Lillisand T. M. and R.W. Kiefer (1997): Remote Sensing and Image Interpretation, John Wiley and Sons, New York.

B. A/B.Sc. III year, Revised Semester wise Syllabus (2024-25)
Subject: Geography
Semester – VI
Project work (Optional)

1. Fieldwork methods and techniques.
2. Village/Urban Study: Socio-economic and Physiographic study.
3. Educational Tour: Observations, Measurements, Interviews, data collection, data Analysis, Report Writing.
4. Based on Physiographic study or socio-economic survey, prepare a critical field-survey report. Photographs and sketches, in addition to maps and diagrams, may supplement the report.

Books Recommended:

1. Gregory, S, 1980. Statistical methods and the Geographer, Longman, London.
2. Mahmood, A. 1986. Statistical Methods in Geographical Studies, Rajesh Pub., New Delhi.
3. Ibrahim, R., 1992. Socio-Economic Profile of Mewat, Radha Publishers, New Delhi.
4. Robinson, A.H. 1978. Elements of Cartography, John Wiley, New York.
5. Raisz, E. 1962. Principles of Cartography, Mc Graw Hill, New York.
6. Burt J.E. Barber. G.E. Rigby D.L. (2009). Elementary Statistics for Geographers, Guilford Press, New York.

The students have to visit a landscape/village/town to conduct Physiographic study/socio-Economic survey. Each student will be required to submit a survey report to be evaluated by external and internal examiner.

DEPARTMENT OF GEOGRAPHY
PATTERN OF EXAMINATION FOR THEORY & PRACTICAL
(2024-25)

Internal Assessment

- i. Two internals of 20 marks each – Average of the two internals is considered for computation in Marks Memo.
- ii. Internals shall be held at the end of every 10th week and 15th week of the semester.
- iii. The time of duration for the internal shall be 1 hours.
- iv. Internals consists of:
PART – A: Periodical test of 15 marks.
PART – B: Assignment - 5 Marks

End Semester Examination

- v. To be held in the month of October/November and March/April months, or as per TU Schedule.
- vi. 70 marks are allotted for the Main Exam per each semester.

Examination Pattern

Section – A: Short Questions

5 out of 8 questions - each question carries 4 marks $5 \times 4 = 20$ marks

Section – B: Essay Questions

Internal choice from each unit

Answer all questions – each question carries 10 marks $4 \times 15 = 60$ marks

Total = 80 marks

Practical Examinations

1. Practical examinations will be held at the end of each Semester of I, II and III years.
2. 50 marks are allotted for each Practical examination consisting of External and Internal Evaluation.
3. **45** marks for practical exam and 5 marks for practical record will be allotted per semester.
4. Practicals shall be conducted in each Semester as per the Syllabus and Time table.

Project/Dissertation Work – 2024 - 25 (Credits 4)

Project work/ Dissertation is considered as a special course involving application of knowledge in solving/analyzing/exploring a real life situation/difficult problem. Project / Dissertation work will be of 4 credits. Studied subject specific project work can be handled, with a view to develop creative thinking, team spirit and skill. The project work at preliminary level should be assigned to students, in groups.

Project report in the form of dissertation is prepared and submitted by the students. It will be evaluated by the External and Internal Examiners. Head of the Department will chair the evaluation panel and proceedings of viva voce. It carries a maximum of 100 marks.

Project guidelines:

1. Understand the subject broadly.
2. Choose a topic of interest.
3. Refer to the books & interact with subject specific experts.
4. Try to understand the basic socio-economic and environmental issues with the help of events and incidents in the society studying geographic methods and techniques.
5. Select the topic applicable locally to know the importance of the subject in daily life, preferably choose, natural environment around the institution, around home, issues related agricultural crops, geographical events, socio-economic issues and nearby relevant industries.
6. Put together, latest technology and methods, basic knowledge on selected theme, Importance/need, locally applicable.
7. Summarize three years knowledge on the subject, go through skill enhancement course, correlate to real life and choose the project work.
8. Laboratory facilities, books to refer and faculty with research experience are essential to handle project.
9. Analyze your data and draw a conclusion.
10. Communicate the results.
11. Work division among the group members should be followed.
12. Maximum number of students in group should not exceed 5.

Project Examination

Maximum Marks:100

- | | |
|-------------------------|----|
| 1. Project Report | 60 |
| Marks | |
| 2. Seminar Presentation | 40 |
| Marks | |

Sign of B.O.S

