



Parvatibai Chowgule College of Arts and Science

Autonomous

Accredited by NAAC with Grade A⁺ (CGPA Score 3.41 on a 4 Point Scale 3rd cycle)

Best affiliated College-Goa University Silver Jubilee Year Award

**DEPARTMENT OF GEOGRAPHY AND RESEARCH CENTER
APPROVED SYLLABUS FOR M.A. DEGREE PROGRAMME IN GEOGRAPHY**

COURSE STRUCTURE

Sem	Code	Core Courses	Credits	Code	Elective Courses	Credits
I	PG.GEG.C1	Advanced Geomorphology	4	PG.GEG.E1	Introduction to Tourism	2
	PG.GEG.C2	Advanced Climatology	4	PG.GEG.E2	Rural Studies	2
	PG.GEG.C3	Practicals in Geomorphology & Climatology	2	PG.GEG.E3	Geography of Environment	4
				PG.GEG.E4	Advanced Regional Geography	2
II	PG.GEG.C4	Geography of Population	2	PG.GEG.E5	Advanced Regional Geography of India	2
	PG.GEG.C5	Advanced Economic Geography	2	PG.GEG.E6	Urban Development and Processes	2
	PG.GEG.C6	Practicals in Economic & Population Geography	2	PG.GEG.E7	Islands of the Indian Ocean	2
	PG.GEG.C7	Basics of Geographical Thought	2	PG.GEG.E8	Techniques of Academic Report Writing	2
	PG.GEG.C8	Basics of Research Methodology	2	PG.GEG.E9	Geography and Tourism	2
III	PG.GEG.C9	Regional Planning and Development	4	PG.GEG.E10	Teaching Techniques in Geography	4
	PG.GEG.C10	Fundamentals of Remote Sensing	2	PG.GEG.E11	Disaster Mitigation and Management	2
	PG.GEG.C11	Practical in Statistical Techniques	2	PG.GEG.E12	Watershed Management	2
	PG.GEG.C12	Practicals in Remote Sensing	2	PG.GEG.E13	Fluvial Geomorphology	2
				PG.GEG.E14	Geography and Development Models	2
			PG.GEG.E15	Dissertation	4	
IV	PG.GEG.C13	Field Techniques and Village Survey	4	PG.GEG.E16	Geography of Migration	2
	PG.GEG.C14	Fundamentals of GIS	2	PG.GEG.E17	Coastal Geomorphology	2
	PG.GEG.C15	Practicals in GIS	2	PG.GEG.E18	Digital Image Processing	2
	PG.GEG.C16	Computer Cartography	2	PG.GEG.E19	Tourism Planning and Development	2
				PG.GEG.E20	Dissertation	4

SEMESTER I

CORE

Course Title: Advanced Geomorphology

Course Code: PG.GEG.C1

Credits: 04

Marks:100

Course Objectives:

1. The main objective of the course is to introduce the students to the advanced principles of Geomorphology - the main factors which are responsible for the evolution of the Earth and dynamics of the physical geography.
2. It will help the students in understanding the natural processes which act on the earth's surface, shaping landforms and apply knowledge of geomorphology to solve realistic problems.

Course Outcomes: After completion of this course, students will be able to -

1. Understand the dynamics of the physical geography including the origin of the Earth and its evolution through geologic time and related topographic and structural evolution.
2. Understand and explain how the endogenous and exogenous processes shape landforms and distinguish the mechanisms that control these processes.
3. Analyze the relationship between folding, faulting, volcanic activity and plate tectonics.
4. Outline the early development of geomorphology and the people involved with its development.
5. Understand how different scales of time and space affect geomorphological processes.
6. Differentiate between the general degradational processes of rock weathering and their effects on landforms.
7. Describe the morphology and evolution of landscapes and related processes in areas influenced by fluvial, glacial, periglacial, aeolian, karst, and coastal systems.
8. Understand landform development by various theories.
9. Analyze geomorphological issues at global, regional and local scale and application of geomorphology to solve realistic problems.

Unit	Topic	Subtopic
1	Concept of geomorphology	Uniformitarianism and Catastrophism, Basic concepts of Geomorphology as postulated by Thornbury.
2	Geo tectonics	Geological time scale and related topographic and structural evolution. Endogenic processes and landforms: Earth movements, Isostasy, Continental Drift, Plate tectonics, Geosynclines and Orogeny, Earthquakes, Volcanism, Geo-magnetism. Case study of the Indian Subcontinent.
2	Process Geomorphology	General degradational processes: Processes of rock weathering and their effects on landforms, Mass movement. Slope development and slope facets; Relationship between longitudinal and transverse slope recession. Erosional and depositional landforms produced by the process - Fluvial, Glacial & Periglacial, Aeolian, Karst and Coastal, Rejuvenated Landforms. Regional Geomorphology of Ganga Plain and Konkan. Coastal processes.
4	Theories of Landform Development	Normal cycle of erosion by W.M.Davis, Views of W. Penk on normal cycle of erosion, Cycle of Pediplanation by L.C.King, Dynamic Equilibrium theory by J.T. Hack.
5	Applied Geomorphology	Role of Geomorphology in Hazard management and mitigation: Earthquakes, Volcanic eruptions, Landslides, Avalanches, Rock slides, Rock fall and Tsunamis. Application of geomorphology in planning and development

References:

1. Chorley, R.J. (1969) Introduction to Fluvial Processes, Methuen, London
2. Chorley, R.J., Schumm, S. A. and Sugden, D.E. (1984) Geomorphology, Methuen, London
3. Cooke, R.U. and Warren, 1973: Geomorphology in Deserts, Batsford, London
4. Dayal, P. 1996: Textbook of Geomorphology, Shukla Book Depot ,Patna.
5. Hallam, A. 1973: A Revolution in Earth Science: From Continental Drift to Plate Tectonics, Oxford University Press, London.
6. Kale, V. and Gupta, A. 2001: Introduction to Geomorphology, Orient Longman, Kolkata
7. McCullagh, P. 1978: Modern Concepts in Geomorphology, Oxford University, Press, Oxford.
8. Morisowa, M. 1968: Streams, their Dynamics and Morphology, McGraw Hill, New York.
9. Siddhartha, K. (2013). The Earth's Dynamic Surface. New Delhi: Kisalaya Publications Pvt. Limited.
10. Singh, S. (2006). Physical Geography. Allahabad: Prayag Pustak Bhavan.
11. Steers J. A: The Unstable Earth, Kalyani Publishers, New Delhi
12. Thornbury, W. D. (2013). Principles of Geomorphology. New Delhi: New Age International Limited Publishers.
13. Goudie Andrew (2014), Encyclopedia of Geomorphology, Volume I, Routledge Publication
14. Goudie Andrew (2014), Encyclopedia of Geomorphology, Volume II, Routledge Publication

CORE

Course Title: Advanced Climatology

Course Code: PG.GEG.C2

Credits: 04

Marks: 100

Course Objectives:

1. The main objective of the course is to help develop knowledge of atmospheric phenomena and the structure of the atmosphere.
2. It will help the student to understand the causal relation – between different types of climate, their variations, effects on natural vegetation, agriculture and human beings.

Course Outcomes:

1. Develop basic knowledge of atmospheric weather and climate and the structure of the atmosphere.
2. Understand and explain how temperature, pressure, humidity and wind motion vary in time and space and their effect on weather.
3. Knowledge about meteorological observations and measurements.
4. Describe climatic diversity over the Earth and knowledge of the climatic zones.
5. Describe the global circulation of the atmosphere, frontal systems and atmospheric motions.
6. Ability to perform climatological analysis on the basis of meteorological data.

Unit	Topic	Subtopic
1	Introduction	Weather & Climate, Subdivisions of Climatology, Earth's atmosphere: Physical properties, Chemical composition, Temperature changes, Vertical variations in the composition.
2	Insolation and Heat Balance	Electromagnetic spectrum, Factors affecting Insolation, Latitudinal and Seasonal variation of Insolation, Albedo, Green House Effect, Heat Budget.
3	Temperature, pressure, humidity and wind motion	Temperature, Pressure, Wind, Humidity Precipitation Theories: Ice-crystal theory, Collision-Coalescence Theory Theories of Monsoonal Circulation.
4	Atmospheric Circulation	Global & Local winds, Effects of wind on weather, Tri-cellular theory and Eddy theory. Jet streams, ENSO Events- El-Nino, La-Nina, Southern Oscillation. Cyclones and anti-cyclones, Thunderstorms, Tornadoes, Hailstorms, Heat and Cold waves
5	Atmospheric Stability	Stable and Unstable Atmosphere, Factors affecting atmospheric stability, Weather associated with stability and instability. Adiabatic and non-adiabatic processes
6	Impact of Climate	Natural Vegetation, Agriculture, Human Life, Economy, Transport Weather Forecasting in India, Satellites in weather forecasting.

References:

1. Lal, D. S. (2015). Climatology. Allahabad: Sharda Pustak Bhavan.
2. Aguado, E. Burt, J.E. (2001): Understanding Weather and Climate, Prentice Hall of India Pvt. Ltd, New Delhi.
3. Critchfield, H.J. (1983): General Climatology, Prentice Hall of India, New Delhi.
4. Lal, D. S. (2015). Climatology. Allahabad: Sharda Pustak Bhavan.
5. Syllabus for M.A./M.Sc. Degree Programme in Geography
6. Oliver John, E. and Hidore John, J. (2003): Climatology, Pearson Education.
7. Roger G. Barry, Richard J Chorley. (2003). Atmosphere, Weather and Climate. Routledge: London.

CORE

Course Title: Practical in Geomorphology and Climatology

Course Code: PG.GEG.C3

Credits: 02

Marks: 50

Course Objectives:

1. The course considers practical aspects of reading a geomorphological map, recognize the landforms and understanding the natural processes shaping them.
2. Also, detailed climatological analysis of the interaction of weather and climatic elements upon human societies is done based on meteorological data.
3. During the course a field trip at regions of great geomorphological interest is organized. The aim of the field trip is the assimilation of the theoretical knowledge.

Course Outcomes: The course will enable the students to –

1. Understand Geomorphic data and its importance
2. Create different types of thematic maps and interpreting the results.
3. Apply different statistical methods used in geomorphological data.
4. Understand and apply geomorphic signs and symbols and to understand geomorphic pattern on field.
5. Use geomorphologic data to communicate effectively by creating graphs and charts.
6. Understand the importance of climatic data in day to day life.
7. Apply statistical data in a given climatic datasets.
8. Understand and analyze the relationship between different climatic data like rainfall & temperature, height & temperature, Normal lapse rate & Dry adiabatic rate.
9. Create results and graphs; and build up their interdependence.
10. Use climatic data to communicate effectively by creating graphs and charts.

PART A: GEOMORPHOLOGY

Unit	Topic	Subtopic
1	Drainage basin and network morphometry	Morphometric analysis.
2	Slope analysis	Slope Models and aspect maps & Hypsometric curve and integral.
3	Geomorphic mapping	Geomorphic mapping in the field-process and materials mapping. Soil sampling
4	Geomorphic Mapping	Geomorphic Mapping in different sieves on probability graph. Calculation of mean, median sorting index, skewness& kurtosis. Determination of silt and clay based on settling velocity. Shape analysis using sediment microscope.
5	Field work	Pre-field work, use of equipment, selection of site, Measurement of channel cross-sections in the field, Geomorphic map of channel bed, Study of erosional and depositional features in the field

PART B: CLIMATOLOGY

Unit	Topic	Subtopic
1	Temperature Analysis	Collection and Processing of atmospheric data Analysis of atmospheric data – Tephigram (Temperature-Height diagram) Classification of Koppen and Thornthwaite's Climate. Discomfort index by Thom's (1959) method. Identification and categorization of heat and cold waves.
2	Rainfall Analysis	Calculation of seasonal rainfall and annual variability of rainfall. Drought and Flood Analyses
3	Water Budget	Computation of water budget and water deficit amounts during crop growing season. Computation of Water Requirement Satisfaction index. Construction of crop-coefficient curve for any one crop.

References:

1. (1999)
2. Doorenbos J.(1977) and Pruitt W.O. Crop water requirement, FAO irrigation and drainage.
3. Frere and Popov (1979)- Agro-Meteorological Crop monitoring and forecasting, FAO plant production Paper No. 17.
4. John F. Mather (1974) - Climatology Fundamentals and Application Oxford University Press.
5. Lawrence, G. R. P.: Cartographic Methods, Mathur Co. London
6. Mather J.R (1974) Climatology, Fundamentals and applications, McGraw Hill Book Co, New York.
7. Monkhouse, F. J. R and: Maps and Diagrams, Wilkinson, H.R. Methuen and Co., London.
8. R. L. Singh & Rana P. B. Singh: Element of Practical Geography, Kalyani Pub. New Delhi
9. Trewartha G.T. : An Introduction to climate Mc-Graw- Hill Book Co. New York.

ELECTIVE

Course Title: Introduction to Tourism

Course Code: PG.GEG.E1

Marks: 50

Credits: 2

Course Objectives:

1. This will be an introductory module giving the basis of tourism studies. This will give an overview of tourism industry and various organizations.
2. Understand the structure, nature and operating characteristics of the different sectors of the hospitality industry.
3. Obtain an appreciation of the various functions of management and their interrelationships with other key concerns of managers such as marketing, finance and human resource management.

Learning outcomes:

1. At the end of this course students are expected to have a holistic understanding of fundamental concepts of tourism and tourist resources in India and thereby be able to analyze the interrelationships among them.
2. Students will be able to demonstrate an awareness and sensitivity to retail and tourism management operations in an international marketplace.
3. Demonstrate the ability to critically evaluate and compare diverse perspectives in the retailing and tourism management industry.

Unit No.	Topic	Sub-Topic
I	Introduction	Definitions and Concepts, tourist destination, services and industry, definition and historical development, Past to 2nd world war, recent and current 1945–2002, Future from 2002 onwards. General Tourism Trends. Types of Tourists, Visitor, Traveler, and Excursionist–Definition and differentiation. Tourism, recreation and leisure, their inter-relationships, Types and Forms of Tourism.
II	Tourism Products & Attraction	Nature, Characteristics and Components of Tourism Industry. Why it is different from other types of consumer product? Elements and characteristics of tourism products. Tourism product production system, Tourism Product Life Cycle, typology of tourism products
III	Tourist Transportation:	Air transportation: The airline industry present policies, practices. Functioning of Indian carriers. Air Corporation Act, Air charters. Surface Transport: Rent-a-car Scheme and coach-Bus Tour, Fare Calculation. Transport & Insurance documents, All-India Permits Rail Transport: Major Railway Systems of World, (Euro Rail and Amtrak) General information about Indian Railways, Types of rail tours in India:, Place-on-Wheels and Royal Orient, Deccan Odessy, Toy Trains. Indrail Pass. Water Transport: Historical past, cruise ships, ferries, hovercrafts, river and canal boats, Fly-cruise.
IV	A study of International Tourism Organizations	Origin, location and functions of WTO, IATA, PATA, ASTA, UFTAA, and ICAO.

REFERENCES

1. Alan A. Lew, C. Michael Hall and Dallen J. Timothy 2008, World Geography Of Travel And Tourism A Regional Approach.
2. Mill and Morrison, (1992), The Tourism System: An Introductory Text, Prentice Hall.
3. Cooper, Fletcher et al, (1993), Tourism Principles and Practices, Pitman.
4. Burkart and Medlik, (1981), Tourism: Past, Present and Future, Heinemann, ELBS.
5. Mill, R.C., (1990), Tourism: The International Business, Prentice Hall, New Jersey.
6. Bhatia, A.K., - International Tourism
7. Seth, P.N., (1999) Successful Tourism Management (Vol 1 &2)

ELECTIVE

Course Title: Rural Studies

Course Code: PG.GEG.E2

Marks: 50

Credits: 2

Course Objectives:

1. The objective is for students to acquire the basic knowledge in rural geography to understand the nature of contemporary rural areas and the changes within them.

Learning outcomes:

1. Apply their knowledge and understanding, and problem-solving abilities, to independently identify rural development issues from a geographical perspective.
2. Demonstrate an ability to critically and systematically integrate knowledge, to analyze and assess complex phenomena and issues in the fields of rural development.
3. Identify and analyze specific urban and rural development needs; and demonstrate an ability to clearly present and discuss conclusions, and the arguments, orally and in writing.

Unit	Topic	Subtopic
1	Introduction to rural settlement	Nature, Scope, Significance and Development of Rural Settlement; Approaches to Settlement Geography;
2	Types and patterns of rural Settlements	Types and Pattern of Rural Settlement; Histrogenesis, Spatio -temporal Dimensions and Morphogenesis of Rural Settlement; Site, Shape, Size and Spacing of Rural Settlement;
3	Structure of rural settlements	Morphology and Functions; Cause of Rural Urban Nexus; Spatial Relation of an Indian Rural Settlement; Rural House Type;
4	Dynamics of Rural Settlement	Rural Service Centres, Planning of Rural Settlement and Sustainable development of rural settlement

References:

1. Paul Cloke, Terry Marsden & Patrick Mooney (2006) The Handbook of Rural Studies, AGE Publications Ltd ,New Delhi
2. Mandal (2001) Introduction to Rural Settlement , Concept Publishing Co, New Delhi
3. Singh R Y (1994) Geography Of Settlements, Rawat Publication, Jaipur
4. Ghosh Sumita (2003) Introduction to Settlement Geography, Orient Black Pvt Ltd Swan, New Delhi

ELECTIVE

Course Title: Geography of Environment

Course Code: PG.GEG.E3

Marks: 100

Credits: 4

Course Objectives:

1. The main objective of this course is to introduce the students to the concept of ecosystem and acquire knowledge of biodiversity.
2. It will help students to understand the environmental issues with special reference to India.

Learning outcomes:

After completion of this course, students will be able to:

1. Understand human-environment interactions and environmental problems – their causes, effects and remedies.
2. Evaluate the impacts of human activities on natural environments with special reference to India.
3. Understand environmental hazards and management.
4. Show awareness and responsibility towards the environment.

Unit	Topic	Subtopic
1	Introduction to Environmental Geography	Environmental Geography-meaning, nature, scope and fundamental concepts, approaches and methods in Environmental Geography, Concept of Ecology, subdivisions and approaches in Ecology
2	Ecosystem and Biodiversity	Ecosystem concept and components, Habitat and ecological niche, Spatial and temporal dimensions of ecosystem, Abiotic and biotic components, Biodiversity and its conservation
3	Environmental degradation	Nature types of degradation-Natural and Anthropogenic degradation, causes and effects of environmental degradation/problems with special reference to the Indian scenario.
4	Environmental Pollution	Air pollution, Water pollution, Land Pollution and Noise pollution and its effects. Case studies from India.
5	Global Warming and its Impacts	Global Warming-Ozone layer depletion, and related causes, Green house effect, Impacts of Global warming and measures
6	Environmental Management	Environmental planning and policies Trends of environmental policies-Environmental Impact Assessment (EIA). Sustainable development, management of environmental quality.

References:

1. Bertalanffy, L. General Systems Theory, George Bragiller New York, 1958.
2. Bodkin, E.: Environmental Studies, Charles E. Merrill Pub. Co., Columbus, Ohio, 1982.
3. Manners, I.R. and Mikesell, M.W.(eds.), Perspectives on Environment, Commission on College Geography, Publ. No. 13, Washington, D.C., 1974.
4. Odum, E.P.: Fundamentals of Ecology, W.B. Saunders, Philadelphia, 1971.
5. Singh, S. : Environmental Geography, Prayag Publications, Allahabad, 1991.
6. Smith, R.L.: Man and his Environment: An Ecosystem Approach, Harper & Row, London, 1992.
7. Strahler, A. N., Geography of man's Environment, John Wiley & Sons Inc. New York
8. Noel Castree, David Demeritt, Diana Liverman& Bruce Rhoads . A Companion to Environmental Geography-A John Wiley & Sons, Ltd., Publication, 2009.

ELECTIVE

Course Title: Advanced Regional Geography

Course Code: PG.GEG.E4

Credits: 02

Marks: 50

Course objective:

1. To develop an advanced understanding of the distinct regions of the world in relation to geo-spatial data.
2. To recognize the significance of geography in shaping regions of the world and the unique processes that govern them.

Learning outcomes:

1. Students will be able to comprehend the global trends and their relation to the physical and socio-economic issues.

Unit	Topic	Subtopics
1	Global overview (Continents)	Relief, Drainage, Climate, Natural Vegetation, Soils. Spatial distribution of Population. Economic Base: Agriculture, Minerals, Power Resources and Industries.
2	Contemporary Issues (Global)	Globalization, W.T.O. and UN Environment Programmes (UNEP), GATT, Migration, Poverty, Terrorism, Political instability, Climate change. Degradation of mineral resources. Food and water security, Socio-economic issues
3	Theories of Regional Development	Albert O. Hirschman, Gunnar Myrdal, John Friedman, Dependency theory of Underdevelopment, Global Economic Blocks, Regional Development and Social Movements in India
3	Case Studies	United States and Canada, The Middle East and North Africa

Reference Books:

1. Cole, J. : A Geography of the World's Major Regions, Routledge, London, 1996.
2. Cole, J.P. : Latin America – Economic and Social Geography, Butterworth U.S.A., 1975.
3. Deblij, H.J. : Geography : Regions and Concepts, John Wiley, New York, 1994.
4. Dickinson, J. Petal : The Geography of the Third World, Routledge, London, 1996.
5. Gourou. P. : The Tropical World, Longman, London, 1980.
6. Jackson, R.H. & Hudman. L.E. : World Regional Geography : Issues for Today, John Wiley, New York, 1991.
7. Kolb. A. : East Asia – Geography of the Cultural Region, Methuen, London, 1977.
8. Minshull. G.N. : Western Europe, Hodder & Stoughton, New York, 1984.
9. Patterson, J.H. : Geography of Canada and the United States, Oxford University Press, 1985.
10. Songquiao. Z. : Geography of China, John Wiley, New York, 1994.
11. Ward P.W. & Miler, A. : World Regional Geography : A Question of Place, John Wiley, New York.
12. Douglas L. Johnson, Viola Haarmann, Merrill L. Johnson, David L. Clawson. (2012). World Regional Geography. New Delhi: PHI Learning Private Limited, M-97, Connaught Circus.

SEMESTER II

CORE

Course Title: Geography of Population

Course Code: PG.GEG.C4

Credits: 02

Marks: 50

Course Objectives:

1. Introduce basic concept of population
2. Develop an understanding of certain theories of population growth and population migration.

Course Outcomes: The course will develop student's ability to -

1. Understand the nature, scope and approaches of population geography
2. Understand concepts like fertility, mortality, migration, gender and urbanization
3. Apply population theories and models in the present day context
4. Conduct mini research on population using approaches in population geography

Unit	Topic	Subtopic
1	Population as a Geographic Subject	Introduction to Population Geography: Development of population geography, contents approaches of population geography and sources of population data.
2	Human Population over Time and Space, Determinants of population growth	Brief History of World Population growth, Fertility and mortality: Determinants of Fertility and Mortality, Demographic Transition theory, its relevance and impacts. Theories of Population growth : Malthus and Saddler
3	Dynamics of Migration: trends and patterns	Importance of Migration, types of migration, cause - effect of migration, Indian migration abroad, recent trends and consequences. Migration theories - Lee, Ravenstein and Zelinsky.
4	Population Issues - Global and India	India's Population Policy and consequences, , declining gender ratio, women equity and empowerment in India. Human development Index

References:

1. Bose Ashish, India's Billion Plus People - 2001 Census Highlights, Methodology and Media Coverage, B R Publishing Corporation, New Delhi.
2. Chandna, R.C. (2002) Geography of Population: Concept, Determinants and Patterns, Kalyani Publishers, New Delhi.
3. Daugherty, Helen Gin, Kenneth C.W. Kammeryir (1998), an Introduction to Population (Second Edition). The Guilford Press, New York, London.
4. Hassan Mohammed (2007) Population Geography, Rawat Publication, Jaipur
5. Kayastha S L (2006) Geography of Population, Rawat Publication, Jaipur

CORE

Course Title: Advanced Economic Geography

Course Code: PG.GEG.C5

Credits: 02

Marks: 50

Course objectives:

1. To introduce the historical and contemporary trends and latest theories in economic geography.
2. To establish a firm base in understanding the economics of the world in relation to Geography.

Learning outcomes:

1. On completion of this course, student will gain insights of the various concepts in economic geography and its approaches.
2. Students will able to link economic development with the geo-spatial data.

Unit	Topic	Subtopic
1	Introduction to Economic Activities	Trends in economic geography, Approaches in Economic Geography, Factors of location of economic activities (Physical, social, economic and cultural)
2	Models in economic geography	Von Thunen's model and its modifications. Potential Population Surfaces Labor Theory of Value- Karl Marx Behavioral Location Theory – Cyert and March
3	Industries in India	Classification of industries. Theories of industrial location- Weber, Losch and Isard; Case studies of selected industries;
4	Transportation (National and International)	Modes of transportation and transport cost; accessibility and connectivity: international, inter and intraregional; comparative cost advantages. Typology of markets and market system.
5	Economic development of India	Regional disparities, Globalization and Indian economy and its impact on environment.

References:

1. Alexander J.W. (1976): Economic Geography, Prentice Hall of India. New Delhi
2. Alexanderson G. (1988): Geography of manufacturing, Prentice Hall of India. New Delhi
3. Berry J.L. Geography of Market Centres and Retail Distribution, Prentice Hall, New York, 1967.
4. Berry, Conkling & Ray (1988): Economic Geography Prentice Hall of India, New Jersey.
5. Chatterjee, S.P. : Economic Geography of Asia, Allied Book Agency, Calcutta, 1984.
6. Chorley, R.J. and Haggett, P. (ed.): Network Analysis in Geography, Arnold, 1969.
7. Dreze, J. and Sen, A. : India-Economic Development and Social Opportunity, Oxford University Press, New Delhi, 1996.
8. Eckarsley, R.(ed.): Markets, the State and the Environment, McMillan, London, 1995.
9. Garnier. B.J. and Delobez, A Geography of Marketing, Longman, London, 1979.
10. Haggett, Peter: Modern Synthesis in Geography.
11. Hurst Elliott (1986): Geography of Economic Behaviour, Unwin, London.
12. Johnson R.J. & Taylor D.J. (1989): A world in crisis, Basil-Blackwell, Oxford.
13. Jones & Darkenwald : Economic geography
14. Losch (1954): Economics of Location, Yale University Press New York.
15. Misra R. P.: Regional Planning, concepts, New Delhi.
16. Redcliff, M. (1987): Development & the environmental crisis. Methuen. London
17. Robinson H & Bamford C. G. (1978): Geography of Transport, Macdonald & Evans USA.
18. Sinha B.N.(1971): Industrial geography of India
19. Watts H.D. (1987): Industrial Geography, Longman scientific and Technical, New York.

CORE

Course Title: Practicals in Population and Economic Geography

Course Code: PG.GEG.C6

Credits: 02

Marks: 50

Course objectives:

1. To introduce various statistical techniques, relevant to research in economic and population geography
2. To acquaint students in processing quantitative data and understand their potentials and applications.

Learning outcomes:

1. The knowledge drawn from this course will acquaint students in analyzing and interpreting statistical data from Census documents, reports, etc and aid in drawing effecting conclusions.

PART A: ECONOMIC GEOGRAPHY

Unit	Topic	Subtopic
1	Crop Concentration	a) Jasbir Singh's modified method
2	Crop Diversification	a) Gibbs Martins Index
3	Crop Combination	a)Maximum Positive Deviation method of Raffiullah(1956) b) Athawale's method of crop combination (1966)
4	Agricultural efficiency	a) Sapre and Deshpande b) Calories per head
5	Transport Network	I Graph Theoretical measures of whole transport network, a)Non-ratio measures cyclomatic number diameter b) Ratio measures : Eta, Theta, Iota, Pi c) Measurement of route II) Measures of Individual elements of transport a)Associated number b) Degree of connectivity network c) Dispersion d) Accessibility Index
6	Models of Spatial Interaction	a) Potential Population Surfaces b) Law of retail trade gravitation. c) Break Point Theory

PART B: POPULATION GEOGRAPHY

Unit	Topic
1	Population Data Collection, Sampling and report writing
2	Population growth and projections (semi average method, Least square method, Exponential population growth)
3	Construction of life Tables, population density and concentration index. Dependency ratio, calculation of human development Index.
4	Demographic Transition model (application in present situation), nearest neighborhood index.
5	Singulate mean age at marriage,
6	Poverty Index

References: Economic Geography

1. Hussain M. (1996): Systematic Agricultural Geography, Rawat Publication, Jaipur.
2. Singh Jasbir (1987): Agricultural Geography, Tata McGraw Publication New Delhi.
3. Yeats M.H(1978): An Introduction to Quantitative Analysis in Human Geography New York
4. Chorley R.J. and Hagget P (1971) : Models in Geography, Methuen Co. London.
5. Lloyd and Dickens (1972): Location in Space Theoretical Approach to Economic Geography, Harper and Raw Publication London.

Reference: Population Geography

1. Bose, Ashish et. al.: Population in India's Development (1947-2000): Vikas Publishing House, New Delhi 1974.
2. Census of India, India: A State Profile, 2001.
3. Chandna, R.C. Geography of Population: Concept, Determinants and Patterns, Kalyani Publishers, New York 2000.
4. Clarke, John I., Population Geography, Pergamon Press. Oxford 1973.
5. Garnier, B.J. Geography of Population Longman, London 1970.
6. Mitra, Asok, India's Population. Aspects of quality and Control Vol. I & II. Abhinar Publication. New Delhi 1978.
7. Premi, M.K. India's Population: Heading Towards a Billion, B.R. Publishing Corporation, 1991.
8. Srinivasan, K. Basic Demographic Techniques and Applications Sage Publications, New Delhi 1998.

CORE

Course Title: Basics of Geographical Thought

Course Code: PG.GEG.C7

Marks: 50

Credits: 2

Course Objectives:

1. The course aims to develop a basic understanding and critical thinking of the various contributions from numerous scholars.
2. To gain grounding knowledge in the history, philosophy and scope in the discipline of geography

Learning outcome:

1. At the end of this course, student will gain sense of chronological organization and areal variation in human activities.
2. The students will be able to evaluate theoretical concepts from geography and elsewhere and demonstrate an understanding of the dynamic and contested nature of the discipline and its contemporary issues.

Unit	Topic	Subtopic
1	Development of Geography: Ancient Period	Geographical knowledge of the ancient world: Greek-Roman Period. Contributions of explorers. Indian Schools of Thought, Contribution of Herodotus, Eratosthenes, Strabo, Ptolemy etc.
2	Development of Geography: Medieval Period	Scientific explanations: Routes to scientific explanations Arab School of thought, Dark age, Age of Discovery, Contribution of Marco Polo, Columbus, Vasco-De-Gama and Captain Cook etc.
3	Development of Geography: Modern Period	Foundations of modern geography, German, French, British and American schools of thought, Contributions of Kant, Humboldt, Ritter, W. M. Davis, Charles Darwin etc.
4	Dualism in Geography	Systematic & regional geography; physical & human geography, the myth and reality about dualisms, Determinism and possibilism, Neo-determinism, Positivism, behaviourism, postmodernism.
5	Geography in 21 st Century	Conceptual and methodological developments and changing paradigms, Scientific methods, Quantitative revolution, Quantification and application of statistical techniques in Geography, Computer applications in geography.
6	Applied Geography	Definition, Need and Significance, Applications in Landuse, regional, Rural & urban Planning, Management of resources and Assessment.

Reference Books:

1. Hertsone, R. (1959): Perspectives of Nature of Geography, Rand MacNally and Co.
2. Frazier, J. W. (1982): Applied Geography, Prentice Hall, Englewood Cliffs.
3. Hussain, M. (1995): Evolution of Geographical Thought, Rawat Pub., Jaipur
4. Coffey, W. J. (1981): Geography: Towards a general spatial systems approach, Methuen & Co. London
5. Cooke, R. U. and Doornkamp, J. C. (1974): Geomorphology in Environmental Management, Clarendon Press, Oxford.
6. Singh I. (2006): Diverse aspect of Geographical Thought, ALFA Publications, New Delhi.
7. Dikshit, R. D. (1997): Geographical Thought: A Contextual History of Ideas, Pub. By A. K. Ghosh, Prentice – Hall of India Pvt. M 97, New Delhi.
8. Arild, H. J. (1999): Geography: History and Concepts, SAGE Publications, London.
9. Chorley, R. J. (Ed): Directions in Geography, Methuen and Co., London
10. Richard, P. (1998): Modern Geographical Thought, Blackwell, Singapore.
11. Warf, B. (Ed) (2006): Encyclopedia of Human Geography, SAGE Publications, New Delhi
12. Goudie, A. (Ed) (2004): Encyclopedia of Geomorphology, Routledge, London
13. Gregory, D., Johnston, R., Pratt, G., Watts, M. and Whatmore, S. (2009): The Dictionary of Human Geography, Wiley-Blackwell, Singapore

CORE

Course Title: Basics of Research Methodology

Course Code: PG.GEG.C8

Marks: 50

Credits: 2

Course Objectives:

1. The course aims to introduce the students to various research designs and techniques and to identify the sources of information for data collection and literature review.

Learning outcome: At the end of this course, student will be able to:

1. Understand the importance of review of literature in research
2. Develop skills of writing review of literature
3. Understand and use different referencing skills
4. Create hypothesis/formulate
5. Critically assess literature review/research paper

Unit	Topic	Subtopic
1	Introduction to Research	Research and its types, Research process and steps, Essential components of Literature Review, definition of problem, Objectives & strategies of research
2	Methods of Data Collection	Types of data collection and classification, designing questionnaires and schedules, digital organization of data, preprocessing
3	Sampling Methods	Probability sampling, random sampling, systematic sampling, stratified sampling and cluster sampling Non-probability sampling, quota sampling
4	Data Analysis	Statistical measures and their significance: Central tendencies, variation, skewness, Kurtosis, time series analysis, correlation and regression, Testing of Hypotheses: Chi Square, ANOVA
5	Multivariate Analysis	Multiple Regression, Factor Analysis, Multi-Criteria Analysis
6	Report writing	Pre writing considerations, Format of report writing, Abstract Writing, Synopsis Writing, Thesis writing, Chapterization, Format of publications in research journals.

References

1. Montgomery, Douglas C. (2007), 5/e, Design and Analysis of Experiments, (Wiley India)
2. Montgomery, Douglas C. & Runger, George C. (2007), 3/e, Applied Statistics & Probability for Engineers (Wiley India)
3. Kothari C.K. (2004), 2/e, Research Methodology- Methods and Techniques (New Age International, New Delhi)
4. Krishnaswamy, K.N., Sivakumar, Appa Iyer and Mathiranjana M. (2006), Management Research Methodology; Integration of Principles, Methods and Techniques (Pearson Education, New Delhi)
5. Hira, D.S. System Simulation, S. Chand & Co., New Delhi

ELECTIVE

Course Title: Advanced Regional Geography of India

Course Code: PG.GEG.E5

Marks: 50

Credits: 2

Course objective:

1. The aim of the course is to develop an advanced understanding of regional geography of India and recognizing the significance of geography in shaping region.
2. Encourage students to appreciate the unique regional dimensions of regions.

Learning outcomes:

1. On completion of this course, the students will understand the issues related of disparities in various regions of India.
2. Students will gain a firm knowledge base of various regions in India and its resource distributions, particularly from the perspective of physical, environmental and human perspective.

Unit	Topic	Subtopics
1	Location	Location importance, Extent and Geopolitical Significance
2	Physiography, Drainage and Climate	Major Physiographic Regions and their Importance, Drainage System of India and their characteristics, Origin and Mechanism of Monsoon, Various Seasons
3	Resources in India	Types of Soils, natural vegetation and Mineral resources distribution and degradation. Mineral Resources and its distribution, Energy Resources: Conventional and Non-Conventional.
4	Contemporary Issues	Regional disparity, Poverty, Globalization, Impact of Development on Environment Social and Ethnic Issues.

References:

1. Aher, A. B, Chaodhari, A. P & Chaodhari Archana (2015) Regional Geography of India Prashant Publication Jalgaon
2. Deshpande C.D(1992): India-A Regional Interpretation Northern Book Centre, New Delhi.
3. Farmer, B.H.(1983): An Introduction to South Asia. Methuen, London.
4. Govt. of India: India - Reference Annual, 2001 Pub. Div, New Delhi, 2001.
5. Govt. of India: National Atlas of India, NATMO Publication, Calcutta..
6. Govt. of India: The Gazetteer of India. Vol I & III Publication Division, New Delhi, 1965.
7. Learmonth, A.T.A. et.al(ed.) : Man and Land of South Asia Concept, New Delhi.
8. Mitra, A.: Levels of Regional Development India Census of India, Vol I, Part I-A (i) and (ii) New Delhi, 1967.
9. Routray, J.K.: Geography of Regional Disparity Asian Institute of Technology, Bangkok, 1993.
10. Shafi, M: Geography of South Asia, McMillan & Co., Calcutta, 2000.
11. Singh, R.L.(ed.): India: A Regional Geography. National Geophysical Society. India, Varanasi, 1971.
12. Spate, O.H.K. and Learmonth, A.T.A.; India and Pakistan - Land, People and Economy Methuen & Co., London, 1967.
13. P. G. Saptarshi, J. C. More, V. R. Ugale & A. H. Musmade :A Geographical Region of India : Diamond Publication (2009) (Marathi)
14. Patil S. G., Suryawanshi R. S., Pacharne S., Choudhar A. H. : Economic Geography, AtharavPrakashan, Pune. (2014) (Marathi).
15. Aher A. B. ,Arekar R.: Commercial Geography, AtharavPrakashan, Pune. (2013) (Marathi).
16. Datt & Sundharam: Indian Economy (2014), S. Chand & Co., New Delhi

ELECTIVE

Course Title: Urban Development and Processes

Course Code: PG.GEG.E6

Marks: 50

Credits: 2

Course Objectives:

1. To establish a foundation to understand various dimensions of urbanization as a process.
2. To expose to various theories applied in urban studies.
3. To define and analyze current urban development issues

Learning outcomes:

1. On successful completion of the course, it is intended that each student will have achieved an understanding of:
 - i. Application of theoretical knowledge to practical case studies or selected urban set ups.
 - ii. Will be able to undertake mini research on selected urban issues.
2. Explain and evaluate historical and contemporary global urbanization processes;
3. Understand the social, economic, demographic dimensions metropolitan areas and impacts country side (city region).

Learning outcomes:

Unit	Topic	Subtopic
1	Concept and processes in Urban Geography	Nature, scope and Developmental models Brief history of Urbanisation of the world. Various approaches to classification, Urban function, Functional classification of towns and cities by C.D. Harris and H. J. Nelson
2	City and its Region	Urban Forms and Models- city and region (Peri Urban , rural – urban fringe , , suburb and satellite towns) Concepts of city region and various synonymous terms used. Criteria used to demarcate the city region, Nature of urban influence. Concept of Mega cities , Global Cities , and Edge cities Park and Burgess Model, Homer Hoyt Model. Harris and Ullman Model, and demarcation of CBD.
3	Sustainable Cities	Smart Cities, Urban Health, Urban Sanitation, Urban Shelter (in context Sustainable Development Goals)

References:

1. Carter, Harold, 2002, "The study of Urban Geography", fourth edition, Oxford University press, New York,
2. Mandal, R.B.(2000) "Urban Geography", Concept publishing company, New Delhi,
3. Ramachandran(997) Urbanization and Urban Systems in India , Oxford University Press, New Delhi
4. Siddhartha K and Mukherjee (2016) Cities, Urbanisation & Urban Systems : Settlement Geography, Kitab Mahal, New Delhi
5. Singh Anoop Kumar (2014) Fundamentals of Urban Geography , K.K. Publications, New Delhi
6. Siddhartha K & Mukherjee S (2007) Cities , Urbanization and Urban Systems, Kisalaya Publications Pvt Ltd.

ELECTIVE

Course Title: Islands of Indian Ocean

Course Code: PG.GEG.E7

Credits: 02

Marks: 50

Course Objectives:

1. To develop and understand various dimensions of Islands of Indian Ocean
2. Critically understand and analyze the physical and histo-cultural attributes of a specific island through a case study.

Learning Outcomes:

1. Students will be able to understand the significance of geo-political location of islands.
2. Students will be able to understand and analyze the role of history in growth and development of oceanic islands.
3. Students will be able to critically identify, enquire and reflect on the threats, environmental as well as human, to the Indian Ocean Islands.

Unit	Topic	Subtopic
1	Geographical Characteristics	Background of Indian Ocean: Shape, size, oceanic relief, islands, Ocean water circulation Climate Historical Background : Evolution of Islands
2	Demography and Economy	Peopling of Islands: History, population composition (population size, sex ratio, religious composition) Economy Resources Geostrategic Importance
3	Case Study	Case study of any of the Indian Ocean Island

References:

- 1) Lal, D.S. (2003). Oceanography. Allahabad: Sharda Pustak Bhawan.
- 2) Savindra Singh (2004): Physical Geography. Allahabad: Prayog Pustak Bhavan.
- 3) Siddharth (2005) Oceanography: A brief introduction. New Delhi: Rawat Publishers.

ELECTIVE

Course Title: Techniques of Academic Report Writing

Course Code: PG.GEG.E8

Marks: 50

Credits: 2

Course Objectives:

1. To provide students with a broad framework for understanding the various components of assignment writing and field report writing.
2. To equip students with the knowledge and skills necessary to write an assignment and field report.

Learning outcomes:

1. The students will understand the various components of academic writing and field report.
2. The students will be able to formulate effective statement of argument and validate the same
3. The students will be able to use and apply referencing style as per the requirement of the course.

Unit No.	Topic	Subtopic
1	Academic writing and composition	1. Introduction to the Writing Process 2. Introduction to the Conventions of Academic Writing 3. Writing in one's own words: Summarizing and Paraphrasing 4. Critical Thinking: Syntheses, Analyses, and Evaluation 5. Structuring an Argument: Introduction, Interjection, and Conclusion 6. Citing Resources; Editing, Book and Media Review
2	Field report writing	Three Stages of writing a geography field report a)Pre field work <ol style="list-style-type: none"> 1. Identifying a research question 2. Developing strategies for obtaining an answer b)Field Work <ol style="list-style-type: none"> 3. Data collection c)Post Field Work <ol style="list-style-type: none"> 4. Data analysis, evaluation, and interpretation 5. Conclusion and presentation of the findings

References

1. Liz Hamp-Lyons and Ben Heasley (2006), Study writing: A Course in Writing Skills for Academic Purposes ,Cambridge: CUP, 2006).
2. RenuGupta(210), A Course in Academic Writing (New Delhi: Orient BlackSwan, 2010).
3. IlonaLeki (1998), Academic Writing: Exploring Processes and Strategies (New York: CUP, 2nd edn, .
4. Gerald Graff and Cathy Birkenstein(2009) They Say/I Say: The Moves That Matter in Academic Writing ,New York: Norton,

ELECTIVE

Course Title: Geography of Tourism

Course Code: PG.GEG.E9

Marks: 50

Credits: 2

Course Objectives:

1. Explore the basic components of geography in relation with tourism.
2. To equip the students with the Knowledge of Tourism geography
3. To lay emphasis on the importance of geography in travel and tourism.

Learning outcomes:

1. At the end of this course students are expected to have a holistic understanding of fundamental concepts of tourism and tourist resources in India and thereby be able to analyze the interrelationships among them.
2. Understand and describe spatial patterns of international and domestic tourism.
3. Understand and describe spatial patterns of international and domestic tourism.
4. Identify tourism actors and career opportunities in tourism.

Unit No.		Course Content
I	Introduction	Nature and Scope of Geography of Tourism, Meaning and Definition of tourism, Nature, Scope, Importance of tourism, Tourism as an interdisciplinary Subject, Recent Trends in Tourism Geography
II	Factors affecting tourism development	Physical Factors –Relief, Vegetation, Wild life, Water Bodies, Socio – Cultural Factors, Religious Factors, Historical and Cultural Factors, Economic Factors, Transportation, Accommodation
III	Classification and Recent Concepts of Tourism	Classification on the basis of -Nationality, Time of travel, Number of tourist, Purpose, Mode of transportation, Season, Nature of tourism. Recent Concepts of Tourism <ul style="list-style-type: none"> • Agro-tourism • Eco-tourism • Heritage tourism • Adventure tourism
IV	Impact of Tourism On various sectors	<ul style="list-style-type: none"> • Economy • Socio-cultural aspects • Environment • Sustainable Development of Tourism
V	Tourist resources of India	<ul style="list-style-type: none"> • Natural Resources • Popular Tourist Resources • Pilgrimage Destinations: • Fairs and Festivals • Handicrafts and Handlooms

REFERENCES

1. Stephen Williams 1998, Tourism Geography
2. Alan A. Lew, C. Michael Hall and Dallen J. Timothy 2008, World Geography Of Travel And Tourism A Regional Approach.
3. Gupta, SP, Lal, K, Bhattacharya, M. Cultural Tourism in India (DK Print 2002)
4. Dixit, M and Sheela, C. Tourism Products (New Royal Book, 2001)
5. Oki Morihoro, Fairs and Festivals, World Friendship Association, Tokyo, 1988.
6. Mitra, Devla, Buddhist Architecture, Calcutta.
7. Michell, George, Monuments of India, Vol. 1. London.
8. Davies, Philip, Monuments of India, Vol. II., London.
9. Jain, Jyotindra & Arti, Aggrawala : National Handicrafts and Handlooms Museum.