

**Parvatibai Chowgule College of Arts and Science  
(Autonomous)**

**DEPARTMENT OF GEOGRAPHY**

**COURSE STRUCTURE**

**THREE YEAR B.A. DEGREE COURSE IN GEOGRAPHY**

<b>SEMESTER</b>	<b>CORE</b>		<b>ELECTIVE</b>			
I	GEG-I.C1: Introduction to Geography	GEG-I.C2: Fundamentals of Physical Geography				
	GEG-I.C1: Measurement Systems in Geography (Practical)	GEG-I.C2: Practicals in Physical Geography (Practical)				
II	GEG-II.C3: Basics of Human Geography	GEG-II.C4: Basics of Regional Geography				
	GEG-II.C3: Practicals in Human Geography (Practicals)	GEG-II.C4: Practicals in Regional Geography (Practicals)				
III	GEG-III.C5: Cartography		GEG-III.E1: Socio- Economic Survey	GEG-III.E2: Field Survey in Physical Geography	GEG-III.E3: Participatory Rapid Appraisal Techniques	GEG-III.E4: Application of Computer in Geography
IV	GEG-IV.C6: Advanced Regional Geography And Development		GEG-IV.E5: Regional Geography of Goa	GEG-IV.E6: Regional Geography of India	GEG-IV.E7: Regional Geography of South Asia (Sri Lanka)	GEG-IV.E8: Regional Geography of USA
V	GEG-V.C7: Basics of Geomorphology		GEG-V.E9: Basics of Climatology	GEG-V.E10: Basics of Oceanography	GEG-V.E11: Geography of Rural Settlements	GEG-V.E12: Geography of Urban Settlements
VI	GEG-VI.C8: Fundamentals of Population Geography		GEG-VI.E13: Introduction to Regional Planning	GEG-VI.E14: Fundamentals of Economic Geography	GEG-VI.E15: Geography of Tourism	GEG-VI.E16: Quantitative Techniques in Geography

**SYLLABUS FOR AUTONOMOUS COURSES IN GEOGRAPHY**  
**BACHELOR OF ARTS**  
**SEMESTER I**  
**REVISED AS ON 11<sup>TH</sup> OCTOBER 2017**

**CORE**

**Course Title: Introduction to Geography (THEORY)**

**Course Code: GEG- I.C1**

**Marks: 75**

**Credits: 3**

**Duration: 45 lectures of 1 hour each**

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**Course Objectives:** This introductory course is intended to acquaint the students with distinctiveness of Geography as a field of learning. The philosophy of the subject is to be taught in order to develop a keen interest in the subject and to pursue it for higher studies.

**Learning outcomes:** At the end of this course students are expected to have a holistic understanding of fundamental concepts of geography and thereby be able to analyze the interrelationships among them.

Unit No.	Course Content	No. of hours	Marks
I	<b>Introduction of Geography</b> Definition, Meaning, nature and scope of geography; Major divisions of geography Major themes in Geography – location, region, process, spatial interaction and time.	15	25
II	<b>Introduction to Geosphere: I</b> <b>Atmosphere:</b> Meaning & Definitions-Composition & Structure of Atmosphere, Elements of Weather & Climate and their inter-relation. <b>Biosphere &amp; Nanosphere</b> Major Natural regions of world	15	25
III	<b>Introduction to Geosphere: II</b> <b>Lithosphere:</b> Evolution of Earth, Geological Time scale. Orders of Relief (I, II, III), oceans and continents, classification of mountains, plateau and plains <b>Hydrosphere:</b> Hydrological Cycle Spatial distribution of water on earth.	15	25

**REFERENCES**

1. Dikshit R.D (2004): The Arts, Science of Geography, Integrated Readings Prentice Hall of India, New Delhi
2. Lal . D. S. (2007) : Climatology, Pushtakmahal, Allahabad
3. Goh Cheng Leong (2003): Certificate Physical and Human Geography, Oxford university press, New Delhi
4. Das Gupta and Kapoor (2013): Principles of Physical Geography, S. Chand & Company Pvt. Ltd.
5. Singh Savindra (2005) : Environmental Geography, Prayag Pustak Bhavan, Allahabad

**CORE****Course Title: Measurement Systems in Geography (Practical)****Course Code: GEG- I.C1****Marks: 25****Credits: 01****Duration: 15 sessions of 2 hours each**

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**Course Objectives:** The course aims to develop skills of map reading and understanding. It also encourages students to understand and correlate the different measurement systems which are essential to understand the geographical concepts.

**Learning outcome:** After the completion of this course students are expected to be familiar with the basic cartographical skills such as basic elements of map and map reading. Besides, they will be acquainted with the cartographic techniques such as area measurements, time calculation, which will help in learning advanced techniques as they progress.

Unit	Title	Practical sessions	Marks
I	1. Scales and its types: a. Verbal Statement. b. Representative Fraction. 2. Linear scale- a. Simple and comparative- b. time and distance 3. Identification of location and extension based on latitude and longitudes. 4. Grid reference system. 5. Finding directions. 6. Calculation of time based on longitude 7. Calculation of area by square method	10	15
II	8. Preparation of map – Title, Scale, Legend, Direction, Signs and symbols, lettering and colour scheme.	05	05
III	Journal		5
		15	25

**References**

1. Campbell, J.(2004) Introductory Cartography, Prentice Hall, Inc Englewood
2. Misra, R.P. and Ramesh, A., (2005): Fundamentals of Cartography, Concept Pub. Co., New Delhi
3. Monkhouse, I.J. and Wilkinson, H.R., (2009): Maps and Diagram, B.I. Publication, New Delhi
4. R. P Mishra. (2014) Fundamentals of Cartography, Concept Pub. Co., New Delhi
5. Gopal Singh. (2014), : Map Work and Practical Geography, 4<sup>th</sup> Edition, Sterling Book House Mumbai

**CORE****Course Title: Fundamentals of Physical Geography (THEORY)****Course Code: GEG- I.C2****Marks: 75****Credits: 3****Duration:45 lectures of 1 hour each**

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**Course Objectives:** The course aims to introduce fundamental concepts of physical geography. The course focuses of various spheres of the earth and their related concepts.

**Learning outcome:** After the completion of this course students are expected to be familiar with the different spheres of the earth and the interrelation amongst them.

Unit No.	Course Content	No. of hours	Marks
I	<b>Concept and Nature:</b> Introduction to physical geography Recent developments in physical geography. <b>Layers of the Earth:</b> Lithospheric system: Interior of the earth. Layering of the earth- Mechanical layering and chemical layering. Weathering and mass movement, Rocks and its types. Soil- definition and profile.	15	25
II	<b>Basic concepts of climatology:</b> Definition and scope of climatology .Insolation, factors affecting Insolation and Heat budget. Temperature, atmospheric pressure, wind, and humidity	15	25
III	<b>Dynamics of ocean water:</b> -Waves, Tides, and surface currents of Indian and Atlantic Ocean.	15	25
		45	75

**References:**

1. Bloom, Arthur L., 2008: Geomorphology – A Systematic Analysis of Late Cenozoic Landforms, Prentice Hall, Engle Wood Cliff, New Jersey.
2. Ahmed, E., 2005: Geomorphology, Kalyani Publishers, New Delhi
3. Sharma, V.K., 2006: Geomorphology, Earth Surface, Process and forms, Tata McGraw Hill, New York
4. Lal.D.S , 2004: Oceanography, Prayag Pustak Bhavan, Allahabad
5. Strahler, A.N., 2005: Physical Geography, 3rd Ed., Wiley Publications
6. Singh, S. 2005: Physical Geography, Prayag Pustak Bhawan, Allahabad
7. Thornbury, W.D., 1969: Principles of Geomorphology, 2nd Ed., Wiley International Edition, Wiley Eastern Reprint, 2004
8. Wooldridge, S.W. and Morgan, R.S., 2008: The Physical Basis of Geography, Longman (First published in 1937)
9. Worcestor, P.G., 2005: A Textbook of Geomorphology, Van Nostrand, 2nd Ed., East West Edition, New Delhi.
10. Chorley, Richard J., 2002: Spatial Analysis in Geomorphology, Harper and Row Publishers, New York, London.
11. Dayal, P. (2nd edition) 2006: A Textbook of Geomorphology, Shukla Book Depot, Patna
12. Sharma, H.S. (ed), 2002: Perspective in Geomorphology, Vol. I & IV, Concept, New Delhi.
13. Sharma, V.K., 2006: Geomorphology, Earth Surface Processes and Forms, Tata Mc. Graw Hill, New Delhi.
14. Sparks, B.W., 2000: Geomorphology, Longman, London, 2nd edition.

**CORE****Course Title: Practical in Physical Geography****Course Code: GEG-I.C2****Marks: 25****Credits: 1****Duration: 15 sessions of 2 hours each**

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**Course Objectives:** The course aims to develop skills of relief representation and Toposheet reading, climate data analysis and interpretation. This exercise demands a higher order skill of converting signs and symbols into words.

**Learning outcome:** After the completion of this course students are expected to be familiar with techniques of representing different relief features and interpretation of the characteristics and association with other relief features. Student will be able to analyze, interpret and represent climate data through graphs.

Unit	Title	Practical Sessions	Marks
I	1. Methods of Representation of Relief features <ol style="list-style-type: none"> <li>a. Spot Heights,</li> <li>b. Bench Marks.</li> <li>c. Triangulation mark</li> </ol> 2. Contours diagrams for slopes with cross sections- gentle slope, steep slope, concave and convex slope, 3. Contours diagrams for hills, plateaus, cliff, 4. Contours diagrams for V-shaped valley, waterfall, rapids, river terraces 5. Profile Drawing from contour diagram. <ol style="list-style-type: none"> <li>a. Serial</li> <li>b. Superimposed</li> <li>c. composite</li> </ol>	10	15
II	6. Calculation of mean, average, range of temperature. 7. Calculation of lapse rate and Relative Humidity.	5	05
	Journal		05

**References**

1. Chorley, Richard. J. (ed.), 2009: Water, Earth and Man, Methuen & Co., London
2. Goudie, Andrew, et al. (eds), 2001: Geomorphological Technique, George Allen & Unwin, London
3. Gregory, K.J. and Walling, D.E., 2003: Drainage Basin – Form and Process, Edward Arnold, London
4. King, C.A.M., 2006: Techniques in Geomorphology, Edward Arnold, London
5. Leopold, L.B, Wolman, M.G. and Miller, J.P., 2004: Fluvial Processes in Geomorphology, Freeman, San Francisco
1. 6.Misra, R.P. and Ramesh, A., 2009: Fundamentals of Cartography, Concept Publishing Co., New Delhi
6. Monkhouse, F.J. and Wilkinson, H.R., 2009: Maps and Diagrams, B.I. Publications Pvt. Ltd., New Delhi
7. Singh, R.L. and Singh Rana P.B., 2008, Elements of Practical Geography, Kalyani Publishers, New Delhi

**SYLLABUS FOR AUTONOMOUS COURSES IN GEOGRAPHY**

**BACHELOR OF ARTS**

**SEMESTER II**

**REVISED AS ON 11<sup>TH</sup> OCTOBER 2017**

**CORE**

**Course Title: Basics of Human Geography (Theory)**

**Course Code: GEG-II. C3**

**Marks: 75**

**Credits: 3**

**Duration: 45 lectures of 1 hour each**

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**Course Objectives:** The course provides the basic conceptual framework of Human Geography. It focuses on cultivating basic knowledge through understanding and analysis of the fundamental concepts in Human geography.

**Learning outcomes:** At the end of this course students are expected to have a holistic understanding of fundamental concepts of Human Geography and thereby be able to understand human related issues.

<b>Unit</b>	<b>Topic</b>	<b>No. of hours</b>	<b>Marks</b>
I	<b>Concept and Nature</b> : Meaning, Scope and Development of Human Geography. Basic principles-Principle of Activity or Change, Principle of Terrestrial Unity or whole. Approaches in human geography (humanistic, scientific, welfare and behavioral)	15	25
II	<b>Society and Culture</b> Evolution of man (Australopithecus, Homo Erectus, Homo sapiens. Man's spread over the earth during the Pleistocene). Culture- meaning and components. Language and religion. (Classification, distribution, issues and challenges.) Contemporary social problems: Gender disparity and related issues Ethnicity and the related issues. (Case study of India).	15	25
III	<b>Indicators of Development:</b> L.D.C. and M.D.C.-social, economic and demographic. (Distribution and Density. Concepts of under population, over population, age and gender composition. Fertility, mortality, migration, Ageing population.) Demographic transition.	15	25
		45	75

Note : The course should focus on basic conceptual aspects.

## References

- 1) H.J De Blij, Alexander B. Murphy, Erin H. Fouberg. (2007) *Human Geography : people, place and culture*. John Wiley and sons. USA.
- 2) Panigrahi .P.K. (2011).*Human Geography-Landscape of Human Activities*. MurariLala and sons. New Delhi.
- 3) Sharma Y.K. (2007) *Human Geography*. Lakshmi Narain Agrawal, Agra.
- 4) Rubenstein J M (2010) *Contemporary Human Geography*. PHI learning pvt, New Delhi.
- 5) Hussain, M.(2004)*Human Geography*. Rawat Publication. New Delhi.
- 6) Chandna, R.C. (2006)*Geography of Population*.Kalyani Publishers. New Delhi
- 7) Hagget, P.(2002)*Geography: A Modern Synthesis*. Harper & Row, New York
- 8) De Blij, H.J., *Human Geography, Culture, Society and Space*, John Wiley, New York, 2006
- 9) Fellman, J.L. *Human Geography-Landscapes of Human Activities*, Brown and Bench man, Pub. U.S.A. 2007.
- 10) Arun Kumar Sharma, 2012: *Principles of Human Geography*, Rastogi Publications, Meerut

**CORE**

**Course Title: Practicals in Human Geography**

**Course Code: GEG-II. C3**

**Marks: 25**

**Credits: 1**

**Duration: 15 sessions of 2 hours each**

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**Course Objectives:** The course provides the basic quantitative aspects of Human Geography. It focuses on cultivating quantification and diagrammatic representation of population data. This enables students to understand, quantify and precisely represent population data.

**Learning outcomes:** At the end of this course students are expected to have a holistic understanding of basic quantitative techniques used in Human geography. They should be able to diagrammatically represent population data and diagrams.

<b>Unit.</b>	<b>Title</b>	<b>Practical sessions</b>	<b>Marks</b>
1	Calculation and interpretation of: <b>1. Fertility measures:</b> Crude Birth Rate, General Fertility Rate <b>2. Mortality measures:</b> Crude Death Rate, Infant Mortality Rate. <b>3. Age data Analysis:</b> Age and gender composition <b>4. Construction of Population Pyramid</b>	8	10
2	<b>5. Literacy measures:</b> Crude Literacy Rate. Gross Enrolment Ratio. <b>6. Work Participation Ratio.</b> <b>7. Per capita income</b> <b>8. GDP</b>	7	10
3	Journal and viva		5
		15	25



## References:

1. Bogue, D. J., 2001: Principles in Demography, John Wiley, New York
2. Bose, Ashish et. al., 2004: Population in India's Development, Vikas Publishing House, New Delhi
3. Census of India, India : A State Profile, 2001.
4. Chandna, R.C. Geography of Population : Concept, Determinants and Patterns, Kalyani Publishers, New York 2000.
5. Crook, Nigel Principles of Population and Development. Pergmon Press, New York 2007.
6. Daugherty, Helen Gin, Kenneth C.W. Kammeryir, An Introduction to Population (Second Edition). The Guilford Press, New York, London 2008.
7. Mitra, Asok, India's Population. Aspects of quality and Control Vol. I & II. Abhinar Publication. New Delhi 2008.
8. Srinivsan, K. and M. Vlassoff. Population Development Nexus in India : Challenges for the New Millennium. Tata mcGraw Hill, New Delhi 2001.
9. Srinivasan, K. Basic Demographic Techniques and Applications Sage Publications, New Delhi 2008.
10. UNDP: Human Development Report Oxford University Press, Oxford 2000.
11. United Nations, Methods for Projections of Urban and Rural Populations. No. VIII, New York 2004.
12. Woods, R. Population Analysis in Geography, Longman, London 2009.
13. Sawant & Athavale: Population Geography, Mehta Publishing House, Pune.2005

## CORE

**Course Title: Basics of Regional Geography**

**Course Code: GEG-II. C4**

**Marks: 75**

**Credits: 3**

**Duration:45 lectures of 1 hour each**

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**Course Objectives:** The course aims to develop a basic understanding of the regions and recognizing the significance of geography in shaping region. It helps students to appreciate regional unique dimensions of regions.

**Learning outcome:** At the end of this course, student will gain sense of spatial organization and areal variation in human activities.

Unit	Title	No. of hours	Marks
I	Concept of Region in Geography: Definition and characteristic The Regional Approach - area, region, space. ii) Methods of Regionalization- methods of delineation of region, types of regions,	15	25
II	i.) Foundations of Region - Ecological, Economic, Social and Cultural Dimensions ii.) Federalism-center – state relationships. iii.) Core – Periphery iv.) Hierarchy of regions, v.) Regional Consciousness and Identity. vi.) The Regional issues. (Two case studies)	15	25
III	Study of Regional Organization: Their evolution, functions and inter-linkages. Globalization and the New Territorial Order.	15	25

## References

1. Singh, R.L.2001 (ed):India – A Regional Geography, National Geographical Society, India
2. Cole, J. : *A Geography of the World's Major Regions*, Routledge, London,2000
3. Israel, S. Johnson, D.I. and Wood, D.: *World Geography Today*,2005
4. Jackson, R.H. and Hudman, L.E.: *Regional Geography: Issues for Today*,2007
5. *An Introduction to Regional Geography*, Paul Claval, Rawat Publication, Jaipur & Delhi,2003
6. Wheeler, J.H. Jr. and Kostbade, J.T., (1990): *World Regional Geography*, Holt Rinshort and Winston, Inc
7. Holier, G.P., 2008: Regional Development in Michael Pacione (ed), *The Geography of the 3rd World: Progress & Prospects*, Rutledge, London, New York.
8. Jackson, R.H. and Hudmar, L.E.: *Regional Geography: Issues for Today* ,2004
9. Paul Claval (2008) *An Introduction to Regional Geography*, Wiley-Blackwell, ISBN 155786733X.

**CORE**

**Course Title: Practical in Regional Geography**

**Course Code: GEG-II. C4**

**Marks: 25**

**Credits: 1**

**Duration: 15 sessions of 2 hours each**

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**Course objectives:** The course provides the basic quantitative aspects of regional Geography. It focuses on cultivating quantification and diagrammatic representation of regional data. This enables students to understand, quantify, compare of unique characteristic of different regions.

**Learning outcomes:** At the end of this course students are expected to have a holistic understanding of basic quantitative techniques used in regional geography. They should be able to diagrammatically represent interpret regional data and diagrams.

<b>Unit</b>	<b>Topic</b>	<b>Practical Sessions</b>	<b>Marks</b>
<b>I</b>	Methods of Regional Demarcation: 1. Demarcation of agricultural regions (crop combination and diversification) 2. Gravity model, 3. Breaking point Analysis, 4. Sphere of Urban Influence 5. Population potential surfaces	<b>08</b>	<b>10</b>
<b>II</b>	6. Network Analysis 7. Nearest Neighbor index, 8. Centro graphic analysis	<b>07</b>	<b>10</b>
<b>III</b>	<b>Journal and viva</b>		<b>05</b>
		<b>15</b>	<b>25</b>

**References**

1. Hegget Peter, Cliff A.D. et. al. (2001) Locational Methods, Locational Analysis in Human Geography, Vol.II Arnold – Heinemann Pub. (India)
2. Hegget Peter, Cliff A.D. et. al. (2000) Locational Meodels, Locational Analysis in Human Geography. Vol. I Arnold – Heinemann Pub. (India)
3. Chandna R.C. (2003): Regional Planning: A Comprehensive Text, Kalyani Publishers, Ludhiana

## SYLLABUS FOR AUTONOMOUS COURSES IN GEOGRAPHY

### BACHELOR OF ARTS

### SEMESTER III

#### CORE

**Course Title:** GEG- III-C-5 Cartography (Theory)

**Marks:** 75

**Credits:** 3

**Duration:** 45 lectures of 1 hour each

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**Course Objectives:** The course aims to provide basic cartographic concepts. This forms the basis for advanced cartographic techniques.

**Learning outcome:** After completion of the course, students will be familiar with basic cartographic concepts. This will help in developing cartographic skills taught in the practical component of this Course.

Unit	Topic	No. of hours	Marks
I	<b>Introduction:</b> Cartography. Scope of Cartography. Cartography as a science and art. Growth of modern cartography. Spatial data – Data nature and data sources. <b>Mapping Organizations in India</b> – Survey of India, NATMO, NRSCA, <b>Colors and Patterns</b> –Color Systems in cartography. Identification. Use of colors in maps, lettering and use of patterns. <b>Map symbolization:</b> Mapping qualitative data and quantitative data- using point, line and area symbols. Maps- Types- physical and cultural maps, SOI Conventional signs and symbols and Colour.	20	30
II	<b>Map projections:</b> General Principles: Classification, properties and choice of map projections. Merits and demerits. Cylindrical, conical and zenithal projections	15	25
III	<b>Introduction to topographical maps:</b> Indexing. Marginal information. Scales, gridding and techniques of map reading	10	20
		45	75

#### References

1. Bygott, J. (2007), An Introduction to Map work and Practical Geography,
2. Campbell, J.(2004): Introductory Cartography, Prentice Hall Inc., Englewood Cliff
3. Misra, R.P. and Ramesh, A., (2005): Fundamentals of Cartography, Concept Publishing Company, New Delhi
4. Monkhouse, F.J. & Wilkinson, H.R., (2009): Maps & Diagrams, B.I. Publications, New Delhi
5. Robinson, A.H., et al: (2000)Elements of Cartography, John Wiley & Sons, New York ,
6. Raisz, E. ( 2004) Principles of Cartography, McGraw Hills, London ,
7. Singh, R. & Singh, R.: (2001)Map Work & Practical Geography, Central Book Depot, Allahabad.
8. Sarkar, Ashis (2000), Practical Geography: A Systematic Approach, Orient Longman Pvt. Ltd., Kolkata.
9. Talukder, S., (2008): Introduction to Map Projections, Eastern Book House, Guwahati

**CORE**

**Course Title: GEG- III-C-5 Cartography (PRACTICAL)**

**Marks: 25**

**Credits: 1**

**Duration: 15 sessions of 2 hours each**

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**Course Objectives:** The course aims to develop skills of construction of scales, projections and preparation of map.

**Learning outcome:** After the completion of this course students are expected to be familiar with map projections.

Unit	Topic	Practical Sessions	Marks
I	Cylindrical Projections. Mercators Equidistance and Equal area	5	07
II	Conical Projections: One standard parallel. 2 standard parallel and Equal area	5	07
III	Zenithal Projections: Steorographic, Gnomonic , Orthographic	5	06
IV	Journal		05

**References**

1. Bygott, J. (2007), An Introduction to Map work and Practical Geography,
2. Campbell, J.(2004): Introductory Cartography, Prentice Hall Inc., Englewood Cliff
3. Elhance, D.N.,(2002): Fundamentals of Statistics, Kitab Mahal, Allahabad
4. Gregory, S., (2003): Statistical Methods and Geographers, Longman, London
5. Hammond, R. and Mc Cullagh, P. (2005): Quantitative Techniques in Geography, Clarendon Press, Oxford Sarkar, Ashis, Practical Geography: A Systematic Approach, Orient Longman Pvt. Ltd., Kolkata.
6. Misra, R.P. and Ramesh, A., (2005): Fundamentals of Cartography, Concept Publishing Company, New Delhi
7. Monkhouse, F.J. & Wilkinson, H.R., (2009): Maps & Diagrams, B.I. Publications, New Delhi
8. Mahmood, A., (2009): Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.
9. Robinson, A.H., et al: (2000)Elements of Cartography, John Wiley & Sons, New York ,
10. Raisz, E. ( 2004) Principles of Cartography, McGraw Hills, London ,
11. Singh, R. & Singh, R.: (2001)Map Work & Practical Geography, Central Book Depot, Allahabad.
12. Sarkar, Ashis (2000), Practical Geography: A Systematic Approach, Orient Longman Pvt. Ltd., Kolkata.
13. Talukder, S., (2008): Introduction to Map Projections, Eastern Book House, Guwahati

**ELECTIVE****Course Title: GEG-III.E-1: Socio Economic Survey (THEORY)****Marks: 75****Credits: 3****Duration: 45 lectures of 1 hour each**

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**Course Objectives:** The primary objective is to provide basic methodology in field based socio-economic survey.**Learning outcome:** After the completion of this course, students will be familiar with techniques of socio-economic survey.

<b>Unit</b>	<b>Topic</b>	<b>No. of hours</b>	<b>Marks</b>
<b>I</b>	Socio-economic survey in Geography: Meaning and significance Socio-economic indicators, Sources of data, Types of data – Social, Economic, Geographical and Demographic	15	25
<b>II</b>	Types of surveys: Historical, Social, Descriptive and Action Surveys, Sampling Techniques, Preparation of Questionnaire, Interview, Group Discussion, Planning Strategy and Implementing of Survey.	15	25
<b>III</b>	Data collection, Data input using MS-Excel and MS-Access, Report writing (a) Academic report – structure, layout, reporting language (b) Comprehensive report representation – photos, sketch, maps, etc.	15	25
		45	75

**References**

1. Kothari, C.R., (2004) Research Methodology- Methods and techniques, New Age International (P) Limited, New Delhi.
2. Gosh, B N (2007) Scientific Methods and Social Research, sterling Publishers Private Limited.
3. Saravanel, P.,( 2014), Research Methodology, Kitab Mehal, New Delhi
4. Mahmood, A., (2009): Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.
5. Singh, Gopal., (2010 ) Map Work and Practical Geography, Vikas Publishing House, New Delhi
6. Bagavathi, V. & Pillai R. S. N. (2005)Statistical Theory and Practice, S. Chand Publication, New Delhi.

**ELECTIVE****Course Title: GEG\_III.E-1: Socio Economic Survey (PRACTICAL)****Marks:25****Credits: 1****Duration: 15 Sessions of 2 hours each**

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**Course Objective:** The objective is to enable students to prepare questionnaires and carry out socio-economic surveys.

**Learning outcome:** The students will be able to conduct field surveys and independently write survey report. They also will be able to use computer for data analysis.

<b>Unit</b>	<b>Topic</b>	<b>Practical Sessions</b>	<b>Marks</b>
<b>I</b>	Questionnaire Formulation: Based on the objective of the Survey. Pilot Survey, Planning for Main Survey, Pre-Survey and Post Survey Work. Safety Measures, Field Book Preparation, Literature Survey, Responsibility Sharing and Plan of Action.	04	05
<b>II</b>	Conducting on-field survey (Village, Market, Ward)	08	05
<b>III</b>	Data analysis using MS Excel and compilation	03	05
<b>IV</b>	Report		10

**References**

1. Kothari, C.R., (2004) Research Methodology- Methods and techniques, New Age International (P) Limited, New Delhi.
2. Gosh, B. N., (2007), Scientific Methods and Social Research, Sterling Publishers Private Limited., New Delhi
3. Saravanel. P,( 2014), Research Methodology, Kitab Mehal, New Delhi
4. Mahmood, A., (2009): Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi.
5. Singh, Gopal., (2010 ) Map Work and Practical Geography, Vikas Publishing House, New Dehli
6. Bagavathi, V. & Pillai R. S. N. (2005) Statistical Theory and Practice, S. Chand Publication, New Delhi.

**ELECTIVE****Course Title: GEG-III-E-2: Field Survey in Physical Geography (THEORY)****Marks: 75****Credits: 3****Duration: 45 lectures of 1 hour each**

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**Course Objectives:** The primary aim of this Course to introduce various surveying instrument used in Physical Geography. Students will learn the operation and the application of the instruments and methods of surveying.

**Learning outcomes:** At the end of this course students will be able to understand functions and applications of dumpy level, Plane table and Global Positioning Systems (GPS) in field based studies.

Unit.	Topic	No. of hours	Marks
I	Significance and Methods of Survey; Classification of Surveying; Fundamentals of Plane Table Survey: a) Radiation Method b) Intersection Method Pre survey work: Safety Measures, Field Book Preparation, Literature Survey, Sharing Responsibilities and Plan of Action Post field survey work: Data Processing Methods, Analysis, Mapping and Report Writing.	15	25
II	Dumpy level surveying : meaning, functioning elements, applications and Methods(Rise-fall and Collimation method) Profile drawing: Beach and River. Beach and River Morphology. Observation of slope, river and coastal morphology on toposheet. Pre survey and Post survey tasks.	15	25
III	GPS survey: Meaning, Space Segment, Ground Segment and GPS Receivers, Applications.	15	25
		45	75

**REFERENCES**

6. Campbell, J. (2004), Introductory Cartography, Prentice Hall, Inc Englewood
7. Khullar.D.R. (2007), Essentials of Practical Geography, New Academic Publishing Co.,Jalandher
8. Misra, R.P. and Ramesh, A. (2005), Fundamentals of Cartography, Concept Pub. Co., New Delhi
9. Monkhouse, I.J. and Wilkinson, H.R. (2009), Maps and Diagram, B.I. Publication, New Delhi
10. Singh, R.L. and Singh Rana P.B.(2008), Elements of Practical Geography, Kalyani Publishers, New Delhi
11. Sarkar, Ashis (2000), Practical Geography: A Systematic Approach, Orient Longman Pvt. Ltd., Kolkata



**ELECTIVE**

**Course Title: GEG-III-E-2: Field Survey in Physical Geography (PRACTICAL)**

**Marks: 25**

**Credits:1**

**Duration: 15 Sessions of 2 hours each**

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**Course Objectives:** The main objective of this course is to provide hands-on training in Plane Table, Dumpy Level and GPS survey.

**Learning outcome:** At the end of this course, students will be able to independently handle survey instruments and prepare maps and field reports.

Unit	Topic	Practical sessions	Marks
I	Plane table survey: a) Radiation Method :2 Exercises B) Intersection Method: 2 Exercises	07	10
II	Dumpy Level Survey: Rise-Fall and Collimation Method GPS Survey: Use of GPS in Mapping And Location Observation Of Slope, River and Coastal Morphology on Field	08	10
III	Journal /Field report		5
		15	25

**References**

1. Campbell J. (2004), Introductory Cartography, Printice Hall, Inc Englewood
2. Khullar.D.R (2007), Essentials of Practical Geography, New Academic Publishing Co. Jalandher
3. Misra, R.P. and Ramesh, A. (2005), Fundamentals of Cartography, Concept Pub. Co., New Delhi
4. Monkhouse, I.J. and Wilkinson, H.R.(2009), Maps and Diagram, B.I. Publication, New Delhi
5. Singh, R.L. and Singh Rana P.B.(2008), Elements of Practical Geography, Kalyani Publishers, New Delhi
6. Sarkar, Ashis (2000), Practical Geography: A Systematic Approach, Orient Longman Pvt. Ltd., Kolkata.

**ELECTIVE****Course Title: GEG-III-E3: Participatory Rapid Appraisal Techniques (THEORY)****Marks: 75****Credits: 3****Duration: 45 lectures of 1 hour each**

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**Course Objectives:** To introduce the basics of Participatory Rapid Appraisal techniques in geographical studies. This will facilitate students in their field work and further research.

**Learning outcome:** At the end of this course, students will be familiar with the conceptual framework of PRA techniques, model mapping, and field techniques. This will also enable students to appreciate spatio-temporal perspective in geographical studies.

Unit	Topic	No. of hours	Marks
I	PRA :-Meaning Nature and Scope Salient features of PRA: Participation - Flexibility –Teamwork, Optimal Ignorance –Systematic. <b>Principles of Participatory Rapid Appraisal</b> -Offsetting biases, Rapid and Progressive Learning, Reversal of Roles, Focused Learning, Seeking for Diversity and Differences, Crosscheck by using different methods (Triangulation).	10	15
II	<b>Mapping Models:</b> Creating a Community Inventory Focus Group Discussions Preference Ranking Wealth Ranking Seasonal and Historical Diagramming Institutional Mapping Venn diagrams Traditional management systems and local-resource collections Folklore, Songs, Poetry, And Dance	15	25
III	<b>PRA techniques:</b> Transect walks and guided field walks, Seasonal calendars, Daily-activity profiles, Semi structured interviewing, Sequencing and chain interviews Permanent-group interviews, Time lines, Local Histories, Local Researchers and Village Analysts, Shared presentations and analysis Villagers' attitudes toward PRA Field report writing : techniques and structure.	20	35
		45	75

**References**

1. Bartle Phil, (2003), Methods of Participatory Appraisal, CSMED
2. Mukherjee A, Chambers R, ( 2004), Participatory Rural Appraisal: Methods and Applications in Rural Planning, Concept Publishing Company, New Delhi
3. Mikkelsen Britha, (2005), Methods for Development Work and Research: A New Guide for Practitioners, SAGE publications, New Delhi
4. Narayanasamy.N, (2008), Participatory Rural Appraisal: Principles, Methods and Application, SAGE publications, New Delhi
5. Pokharel Ridish, Balla Mohan, (2003), A Process for Participatory Rural Appraisal, Institute of Forestry, Pokhar.

**ELECTIVE****Course Title: GEG-III-E-3: Participatory Rapid Appraisal Techniques (Practical)****Marks: 25****Credits: 1****Duration: 15 Sessions of 2 hours each**

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**Course Objectives:** Skill development in PRA Techniques and facilitate students in field work and research.

**Learning outcome:** At the end of this course, students will be familiar with the techniques in PRA.

Unit	Topic	Practical Sessions	Marks
I	Exercise 1. Preparing a field Plan Exercise 2. Preparation of time scale. Exercise 3. Social mapping chart. Exercise 4. . Semi-structured interview. Exercise 5. Timeline (Historical Mapping).	07	10
II	Exercise 6. Time chart or Seasonal calendar. Exercise 7. Wealth ranking. Exercise 8. Venn diagram preparation. Exercise 9. Daily activity profiling. Exercise 10. Prepare questionnaire of attitude of villagers towards development.	08	10
III	Journal / Viva voce	-	05
		15	25

**Note: This practical is based on field work**

**References**

1. Bartle Phil, (2003), Methods of Participatory Appraisal, CSMED
2. Mukherjee A, Chambers R, (2004), Participatory Rural Appraisal: Methods and Applications in Rural Planning, Concept Publishing Company, New Delhi
3. Mikkelsen Britha, (2005), Methods for Development Work and Research: A New Guide for Practitioners, SAGE publications, New Delhi
4. Narayanasamy.N, (2008), Participatory Rural Appraisal: Principles, Methods and Application, SAGE publications New Delhi
5. Pokharel Ridish, Balla Mohan, (2003), A Process for Participatory Rural Appraisal, Institute of Forestry, Pokhar.

**ELECTIVE****Course Title: GEG-III-E-4: Application of Computer in Geography (Theory)****Marks: 75****Credits: 3****Duration: 45 lectures of 1 hour each**

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**Course Objectives:** The course in application of computer in geography will enable student to use basic computer skills in geography to represent dimensional cartograms and data models.

**Learning outcome:** The students will be able to prepare cartograms that can be used for various geographical applications.

<b>Unit</b>	<b>Topic</b>	<b>No. of hours</b>	<b>Marks</b>
I	Application of computers in cartography, Significance of Internet in Geographical studies. E sources of geographical data. (e.g. Bhuvan, IMD, easy tide, India Water Portal, portal of rural data) Fundamentals of raster and vector data models. ,	10	15
II	Introduction to Computer and Geographic data: Cartograms of one, two and three dimensions, (Graphical Representation-Histogram, Bar Graphs, Line Graphs, Multiple Line Graphs, Scatter Diagrams, Pie Diagrams, Frequency polygon, Frequency curve, Cumulative frequency curve or Ogive with the help of computers)	15	25
III	Concept and Methods of data interpolation: Introduction to kriging, IDW,	20	35
		45	75

**Reference Books**

1. Robinson, A.H., et al: (2000)Elements of Cartography, John Wiley & Sons, New York
2. Khullar.D.R. (2007), Essentials of Practical Geography, New Academic Publishing Co.,Jalandher

**ELECTIVE****Course Title: GEG-III-E-4: Application of Computer in Geography (Practical)****Marks: 25****Credits: 1****Duration: 15 Sessions of 2 hours each**

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**Course Objectives:** The course in application of computer in geography will enable students to use basic computer skills in geography to represent dimensional cartograms and data models.

**Learning outcome:** The students will be able to prepare cartograms that can be used for various geographical applications.

<b>Unit</b>	<b>Topic</b>	<b>Practical Sessions</b>	<b>Marks</b>
I	Use of computer application in thematic mapping – Map Layouts, choropleth, isopleth, dot density and pictograms,	08	07
II	Cartograms of one, two and three dimensions, One dimensional plot: The Dot plot, Box and Whisker Plot	09	07
III	Two and Three dimensional: Histogram, Frequency Polygon, Cumulative frequency curve or Ogive (Graphical Representation-Histogram, Bar Graphs, Line Graphs, Multiple Line Graphs, Scatter Diagrams, Pie Diagrams, Frequency polygon, Frequency curve, Cumulative frequency curve or Ogive with the help of computers)	08	06
	Journal		05

**Reference Books**

1. Robinson, A.H., et al: (2000) Elements of Cartography, John Wiley & Sons, New York
2. Khullar.D.R. (2007), Essentials of Practical Geography, New Academic Publishing Co.,Jalandher

**SYLLABUS FOR AUTONOMOUS COURSES IN GEOGRAPHY  
BACHELOR OF ARTS  
SEMESTER IV**

**CORE**

**Course Title: Advanced Regional Geography and Development (THEORY)**

**Course Code: GEG-IV.C-6**

**Marks: 75**

**Credits: 3**

**Duration: 45 lectures of 1 hour each**

**Course Objectives:**

This course aims to provide students with basic understanding of regional geography by focusing on a variety of cultural, environmental, social, economic, and political issues. The course will focus on specific issues unique to each region as identified by the instructor. Lastly, the course will also consider the historic and current position of traditional regional geography in the discipline by critically assessing the role of the 'region' and its implications.

**Learning outcomes:**

1. Students will have a thorough understanding, both from a historical and contemporary perspective, of regional geography and be able to identify positive and negative aspects of its framework .
2. Besides, students will gain familiarity and be able to identify and describe key physical, cultural, social, economic, and environmental characteristics across the landscape and have the ability to identify and explain the primary causal factors influencing a geographic variability

<b>Unit</b>	<b>Topic</b>	<b>No. of hours</b>	<b>Marks</b>
I	Understanding regional perspective: <ul style="list-style-type: none"> <li>• Methods of regionalization</li> <li>• measuring levels of development</li> <li>• Changing concept of regionalization in terms of economic, social and political perspective.</li> </ul>	15	25
II	Regions and Regional Geography: Federalism, centre – state relationships. <ul style="list-style-type: none"> <li>• Core – Periphery</li> <li>• Hierarchy of regions,</li> <li>• Design a representative region.</li> </ul> Regions: <ul style="list-style-type: none"> <li>• Thinking of Paths of Economic growth</li> <li>• Indian Model of Economic Development</li> </ul>	15	25
III	Regional Issues: Contemporary international relations: India – Pakistan, Kashmir Issue, Afghanistan, regional migrations and issues, <ul style="list-style-type: none"> <li>• Smart cities</li> <li>• Developing and Developed Economies,</li> <li>• India's Mixed Economy,</li> <li>• Developed and Potential regions.</li> </ul>	15	25
		45	75

**References:**

1. Bergman, Renwick and Vasantha (2008), Introduction to Geography: People, Places and Environment, Pearson Education, Inc Dorling Kindersley Pvt Ltd, New Delhi.
2. Chandna, R.C. (2015), Regional Planning and Development, Kalyani Publishers, New Delhi
3. Mahesh Chand and V. K Puri (2000): Regional Planning in India, Allied Publishers Pvt. Ltd., New Delhi

**CORE**

**Course Title: Advanced Regional Geography and Development (PRACTICAL)**

**Course Code: GEG-IV.C-6**

**Marks: 25**

**Credits: 1**

**Duration: 15 sessions of 2 hours each**

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**Course Objectives:**

The aim is to equip students with skills of demarcating regions based on certain attributes or characteristics. Students will also learn to understand the spatial aspects in geography.

**Learning outcomes:** This will provide students the confidence to demarcate the area or region and also understand their attributes

Unit	Topic	Practical Sessions	Marks
I	Temporal and Comparative time scale using GAPMINDER Basics of Regionalization Methodologies in levels of development: Point scale method in measuring regional development HDI Lorenz curve Identification of Formal Regions: (a) the fixed index method, (b) the variable index method, and (c) the cluster method Identification of Functional Regions: (a) flow analysis and (b) gravitational analysis	7	10
II	Determining hierarchy at regional levels using socio-economic indicators Gerry meandering method : Types of Gerry meandering, Maximum segregation and Maximum Integration	8	10
III	Journal		05
		<b>15</b>	<b>25</b>

**References:**

1. Bergman, Renwick and Vasantha (2008), Introduction to Geography: People, Places and Environment, Pearson edction, Inc Dorling Kindersley Pvt Ltd, New Delhi.
2. Bygot, J.: (2001) An Introduction to Map Work and Practical Geography
3. Campbell, J., (2004): Introductory Cartography, Printice Hall, Inc Englewood
4. Chandna, R.C. (2015), Regional Planning and Development, Kalyani Publishers, New Delhi
5. Misra, R.P. and Ramesh, A., 2005: Fundamentals of Cartography, Concept Pub. Co., New Delhi
6. Monkhouse, I.J. and Wilkinson, H.R., (2001): Maps and Diagram, B.I. Publication, New Delhi

**Field Geology references**

1. Mathur, S.M. (2001) Guide to Field Geology, Prentice-Hall, New Delhi.
2. Compton, R.R. (1962) Manual of Field Geology. John Willey and Sons, Inc.
3. Lahi, F.H. (1987) Field Geology. CBS Publishers. 4. Gokhale, N.W. (2001) A Guide to Field Geology, CBS Publishers.



**ELECTIVE**

**Course Title: Regional Geography of Goa**

**Course Code: GEG-IV.E-5**

**Marks: 75**

**Credits: 3**

**Duration: 45 lectures of 1 hour each**

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**Course Objectives:** The course is aimed at presenting an integrated and empirically based profile of Goa.

**Learning outcomes:** At the end of this course, students are expected to have an understanding of the inter linkages and interaction between physical and sociocultural base of Goa.

<b>Unit</b>	<b>Title</b>	<b>No. of hours</b>	<b>Marks</b>
I	Location: Absolute and relative. Physiographic divisions, soils, vegetation, water and mineral resources	15	25
II	Population and its characteristics: Spatial and temporal growth, Gender composition, Age composition, Literacy levels, Work participation rate, Religious composition, Migration and related issues	15	25
III	Industrialization, Mining, Tourism, and Related environmental issues. Trade, Transport, Communication and Health Care	15	25
		45	75

**References**

- 1) Alvares Claude (2002), Fish, Curry and Rice: A Source Book on Goa, its Ecology and Lifestyle, The Goa Foundation, Goa
- 2) Anant Kakha Priolkar (1961), The Goa Inquisition, Bombay
- 3) Jakati, D.M. (2014), Resource Geography of Goa, Scholars World
- 4) Malati Mahajan (2002), Cultural History of Maharashtra and Goa: From Place Name Inscriptions Sandeep Prakashan
- 5) Olivinho J. F. Gomes (1996), Village Goa: A Study of Goan Social Structure and Change, S.Chand (G/L) & Company Ltd; Delhi

**ELECTIVE****Course Title: Practicals in Regional Geography of Goa****Course Code: GEG-IV.E-5****Marks: 25****Credits: 1****Duration: 15 sessions of 2 hours each**

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**Course Objectives:** The course is aimed at presenting integrated and empirically based profile of Goa.**Learning outcomes:** At the end of this course, students are expected to have an ability to represent inter linkages and interaction between physical aspects and resource base of Goa.

Unit	Title	Practical sessions	Marks
1	Physiographic and cultural mapping of Goa using various cartographic techniques Cross Sectional Profiles, Hypsometric Curve, Isohytes, Windrose	6	10
2	Population Mapping: Population Growth (Graphs) Spatio-temporal: density, age composition, literacy, urban-rural (Chorochromatic) Industrial location, mining areas beach locations (choroschematic)	9	10
3	Journal and Viva		05
		15	25

**References**

1. Bygot, J. (2001): An Introduction to Map Work and Practical Geography,
2. Campbell, J., (2004): Introductory Cartography, Printice Hall, Inc Englewood
3. Jackson, R.H. and Hudmar, L.E. (2001): Regional Geography: Issues for today ,
4. Misra, R.P. and Ramesh, A., (2005): Fundamentals of Cartography, Concept Pub. Co., New Delhi
5. Monkhouse, I.J. and Wilkinson, H.R., (2001): Maps and Diagram, B.I. Publication, New Delhi
6. Raisz, E. (2005): General Cartography, McGraw Hills Co., London
7. Robinson, A.H., et al, (2003): Elements of Cartography, John Wiley and Sons, New York
8. Singh, R ; Singh L.R., (2001) Mapworks in Practical Geography, Central book Depot, Allahabad
9. Singh, R.L. (2000): Elements of Practical Geography, Kalyani Publishers, New Delhi

**Note: Source of Data**

1. Socio economic survey ( 2014-15), Government of Goa, Government Printing Press Panaji, Goa.
2. Census Goa – Census of India, 2001 & 2011
3. Goa Statistical Handbook

**ELECTIVE****Course Title: Regional Geography of India (Theory)****Course Code: GEG-IV.E-6****Marks : 75****Credits: 3****Duration: 45 lectures of 1 hour each**

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**Course Objectives:** The course is aimed at presenting an integrated and empirically based profile of India.

**Learning outcomes:** At the end of this course, students are expected to have an understanding of the inter linkages and interaction between physical aspects and resource base of India.

Unit	Title	No. of hours	Marks
I	Physical bases: Location, Morphological divisions, Drainage System, Climate: Factors & Seasons	15	25
II	Resource Bases: <ul style="list-style-type: none"> <li>• Natural Resources: Soil, Forest, Mineral, Power Production</li> <li>• Population resources: density and distribution,</li> <li>• Population Composition: Ethnic, Urban-Rural, Worker - Non-Worker</li> <li>• Trends of Migration</li> </ul>	15	25
III	Resource development: Indian Agriculture: New Technology and Green Revolution Achievements Trade and Transport: Golden Quadrangle, Konkan Railway Urbanization: Metropolotization and smart cities, Industrialization : IT's, SEZ Water Resource Development: River linking, multipurpose projects <ul style="list-style-type: none"> <li>•</li> </ul>	15	25
		45	75

**References**

1. Deshpande C.D, (1992): India-A Regional Interpretation Northern Book Centre, New Delhi
2. Khullar, D.R. (2011): "Indian-A Comprehensive Geography" Kalyani Publishers, New Delhi
3. Learmonth, A.T.A. et.al(ed): Man and Land of South Asia Concept, New Delhi.
4. Mitra, A. (1967): levels of Regional Development India Census of India, Vol.I, Part I-A (i) and (ii) New Delhi,.
5. Routray, J.K. (1993): Geography of Regional Disparity Asian Institute of technology, Bangkok
6. Shafi, M, (2000): Geography of South Asia, McMillan & Co., Calcutta
7. Singh, R.L.(ed) (1971): India: A Regional Geography. National Geographical Society. India, Varnasi
8. Spate, O.H.K. and Learmonth, A.T.A. (1967): India and Pakistan - Land, People and Economy Methuen & Co., London,
9. Tiwari, R.C. (2006): "Geography of India" Prayag Pustak Bhavan, Allahabad.
10. Valdiya, K.S. (1998): Dynamic Himalaya, University Press, Hyderabad
11. Valdiya, K.S. (2004): Geology, Environment and Society, University Press, Hyderabad
12. Wadia, D.N. (1967): Geology of India, McMillan & Co., London,

**ELECTIVE****Course Title: Practicals in Regional Geography of India****Course Code: GEG-IV.E-6****Marks: 25****Credits: 1****Duration: 15 sessions of 2 hours each**

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**Course Objectives:** To understand India in terms of various regional division and to analyses the natural and human resource endowment using various cartographic techniques.

**Learning outcome:** Students are expected to learn the skills of choosing appropriate cartographic techniques to quantitatively represent regional aspects of India and infer the processes that operate through space and time in different regions of India.

Unit	Title	Practical sessions	Marks
1	Cartographic representation and mapping of physiographic division, Soil, Forest, Climatic Division, Industrial Regions	8	10
2	Calculation and graphical representation of Age-sex ratio. Child-women ratio, Dependency ratio, Infant mortality rate, Age specific mortality ,Population growth rate, Population projection(as per 2001 and 2011 census)	7	10
3	Journal and Viva		05
		15	25

**References**

1. Bygot, J.: An Introduction to Map Work and Practical Geography, 2001
2. Campbell, J., 2004: Introductory Cartography, Printice Hall, Inc Englewood
3. Khullar, D.R. (2011): "Indian-A Comprehensive Geography" Kalyani Publishers, New Delhi
4. Misra, R.P. and Ramesh, A., 2005: Fundamentals of Cartography, Concept Pub. Co., New Delhi
5. Monkhouse, I.J. and Wilkinson, H.R., 2001: Maps and Diagram, B.I. Publication, New Delhi
6. Raisz, E.: General Cartography, McGraw Hills Co., London ,2005
7. Robinson, A.H., et al.: Elements of Cartography, John Wiley and Sons, New York, 2003
8. Singh, R.L.: Elements of Practical Geography, Kalyani Publishers, New Delhi ,2000
9. Jackson, R.H. and Hudmar, L.E.: Regional Geography: Issues for today ,2001
10. Singh, R ; Singh L.R., Mapworks in Practical Geography, Central book Depot, Allahabad, 2001
11. Singh Gopal (2000), Map Work and Practical Geography, 4th Revised Edition, Vikas Publishing House Pvt. Ltd., New Delhi
12. Tiwari, R.C. (2006): "Geography of India" Prayag Pustak Bhavan, Allahabad.
13. Valdiya, K.S. (2004): Geology, Environment and Society, University Press, Hyderabad

**ELECTIVE****Course title: Regional Geography of South Asia (Sri Lanka)****Course Code: GEG-IV.E-7****Marks: 75****Credits: 3****Duration: 45 lectures of 1 hour each**

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**Course Objective:** The objective of this course is to acquaint students with the importance of looking at the world from a spatial perspective with a regional approach with special reference to geographical aspects of Sri Lanka.

**Learning outcomes:** At the end of this course, students are expected to have a holistic understanding of the spatial aspects of Sri Lanka.

Unit	Title	No. of hours	Marks
I	Geographical Aspects of Sri Lanka: Physiography, Climate, Geo political significance, Resources: Forest, Soil, River and mineral	15	25
II	Evolution of Regional Entity: Ethnicity, Language and Religion, Politics of Cultural Identity and its Developments post-civil war	15	25
III	Civil society and Governance: Quality of life, Socio-Economic well being, Contemporary growth in Infrastructure, Tourism: Trade, Regional Specialization Ecology and disaster management	15	25
		45	75

**REFERENCES:**

1. Bhardwaj V and Sawant N N, (2016), South Asia: Intra-Regional Conflicts and Co-operation, GB Books, New Delhi
2. Dash Kishore, (2008), Regionalism in South Asia-Negotiating co-operation institutional structures, Routledge, London
3. Gunaratha k Locana, (2006), Spatial Concern's In Development: Sri Lanka Perspectives, Published by Atlantic Publishers and Distributors, Ansari road, New Delhi- 110027
4. Mullinga M, Nadarajah Y, (2012), Rebuilding Local Communities In The Wake of Disaster: Social Recovery in Sri Lanka and India, Published by Routledge, 912 Tolstoy House, Printed and bound in India by Avantika Printers Pvt.ltd East of Kailash, New Delhi- 110001
5. Orjuela Camilla, (2008), The Identity Politics of Peace Building, published by Vivek Mehra for SAGE publications, India Pvt.ltd, New Delhi
6. Raghvan.V.R,(2011), Conflict In Sri Lanka, Published for Centre for Security Analysis, Chennai, India
7. Wickramasinghe Nira, (2014), Sri Lanka In the Modern Age: A History, Published in India by Oxford University Press, YMCA building, New Delhi-110001

**ELECTIVE****Course title: Practicals in Regional Geography of South Asia (Sri Lanka)****Course Code: GEG-IV.E-7****Marks: 25****Credits: 1****Duration: 15 sessions of 2 hours each**

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**Course Objective:** The objective of this course is to acquaint students with the importance of looking at the world from a spatial perspective with a regional approach with special reference to the geographical perspective of Sri Lanka.

**Learning outcomes:** At the end of this course, students are expected to have a holistic understanding of the concept of the spatial perspective of Sri Lanka, utilize demographic data to show human population patterns and consequences, recognize economic factors and the influences of globalization.

Unit	Title	Practical sessions	Marks
I	Physiographic and Climatic Mapping of Sri Lanka. Soil Map and Drainage Map	8	10
II	Population Mapping – Mainstream and ethnic population HDI: Calculation of Human Development Index Choroschematic Mapping for Sri Lanka	7	10
III	Journal		5
		15	25

**REFERENCES:**

1. Bhardwaj V and Sawant N N, (2016), South Asia: Intra-Regional Conflicts and Co-operation, GB Books, New Delhi
2. Dash Kishore, (2008), Regionalism in South Asia-Negotiating co-operation institutional structures, Routledge, London
3. Gunaratha k Locana, (2006), Spatial Concern's In Development: Sri Lanka Perspectives, Published by Atlantic Publishers and Distributors, Ansari road, new Delhi- 110027
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5. Orjuela Camilla, (2008), The Identity Politics of Peace Building, published by Vivek Mehra for SAGE publications, India Pvt.ltd, New Delhi
6. Raghvan.V.R,(2011), Conflict In Sri Lanka, Published for Centre for Security Analysis, Chennai, India
7. Wickramasinghe Nira, (2014), Sri Lanka In the Modern Age: A History, Published in India by Oxford University Press, YMCA building, New Delhi-110001

**ELECTIVE**

**Course Title: Regional Geography of USA (THEORY)**

**Course Code: GEG-IV.E-8**

**Marks: 75**

**Credits: 3**

**Duration: 45 lectures of 1 hour each**

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**Course Objectives:** This introductory Course is intended to acquaint the students with a systematic view of physical and socio-economic dimensions of the United States of America.

**Learning outcomes:** At the end of this course, students are expected to have a holistic understanding of physical, cultural and economic landscape of USA.

<b>Unit</b>	<b>Title</b>	<b>No. of hours</b>	<b>Marks</b>
I	Physical landscape: Tectonics, Mountains, Plateaus, Plains, Deserts, Islands. Climate Region. Rivers & Water Regimes. Wetlands. Plants Animal Ecology and Ecoregions. Human imprints on landscape and Environmental: management and conservation.	15	25
II	Socio-Cultural landscape: Demographic, Cultural, Political and Economic aspects. Socializing Economic Space: Culture and the Firm, Gender Economies, Ethnic Economies. Social issues and experience of living in America.	15	25
III	Determinants of Economic landscape: Incorporations and Government Transnational Corporations, Labour Power, Consumption Dynamic Economic Space: Economic Growth and development, commodity chain technology and agglomeration.	15	25
		<b>45</b>	<b>75</b>

**REFERENCES**

1. Antony Orme (2002), Physical Geography of North America. Oxford University Press, New York
2. Chris Mayda (2013), A Regional Geography of the United States and Canada: Toward a Sustainable Theme. Rowman and Littlefield Pub. UK
3. John C. Hudson (2002), Across This Land: A Regional Geography of the United States and Canada. The John Hopkins University Press, USA
4. Neil Coe, Philip Kelly & Henry W. C. Yeung (2007), Economic Geography: A Contemporary Introduction (2ed), Blackwell Publishing, USA

**ELECTIVE****Course Title: Regional Geography of USA (Practical)****Course Code: GEG-IV.E-8****Marks: 25****Credits: 01****Duration: 15 sessions of 2 hours each**

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**Course Objectives:** The course aims to develop skills of mapping the physical and cultural attributes of the United State. It also encourages students to understand and correlate physical social and economic landscapes of USA

**Learning outcome:** After the completion of this course students are expected to be familiar with the basic cartographical skills such representation of basic physical human and economic data through thematic maps.

Unit	Title	Practical Sessions	Marks
1	Interpretation of USGS topographical Map, Indexing, Signs and symbols, colour schemes, Scales and Grids, projections Physical aspects: Relief, Drainage, Vegetation,	8	10
2	Interpretation of USGS topographical maps Cultural Aspects: Settlement, transport network, Landuse	7	10
3	Journal	-	5
		<b>15</b>	<b>25</b>

**REFERENCE BOOKS:**

1. D.S. Bhattacharya and T.C. Bagchi (1973) Elements of Geological Map Reading and Interpretation (with exercises). Orient Black Swan
2. Geological Survey and Rand McNally (2003) National Geographic Arkansas: Seamless USGS Topographic Maps. National Geographic Society.
3. Gopal Singh Map Work and Practical Geography, 4/e. Vikas Publishing.
4. Jenny Marie Johnson (2003):Geographic Information, How to Find It, How to Use It. Greenwood Press, London.
5. John B. Rowland (1955) FEATURES SHOWN ON TOPOGRAPHIC MAPS. GEOLOGICAL SURVEY CIRCULAR 368, USGS, Washington DC.
6. Nelson Petrie (2007) Analysis and Interpretation of Topographical Maps (Rev) (Getting Ahead in Social Science). Orient BlackSwan,
7. Ordnance Survey ( 2002)Reading, Wokingham and Pangbourne (Explorer M... (Map), Ordnance Survey Southampton, UK.
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9. Rachel Hewitt (2013) Map of a Nation: A Biography Of The Ordnance Survey. Granta Book.
10. Richard DE Bruin and W. Hilton Johnson American Educational 100 Topographic Maps. American Packing & Gasket
11. Robert B. Matkin ( 1992)Map Reading. Dalesman Publishing Co Ltd
12. Terry Marsh (2007) Pathfinder Map Reading Skills: An Introduction to Map Reading and Basic Navigation (Pathfinder Guide) Jarrold Publishing.
13. Terry Marsh (2009) Pathfinder Map Reading Skills: An Introduction... Crimsons Pub. Singapore

Data Source: <http://www.map-reading.com/>



**SYLLABUS FOR AUTONOMOUS COURSES IN GEOGRAPHY  
BACHELOR OF ARTS  
SEMESTER V**

**CORE**

**Course Title: Basics of Geomorphology**

**Course Code: GEG-V.C-7**

**Marks: 75**

**Credits: 3**

**Duration: 45 lectures of 1 hour each**

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**Course Objectives:** The course provides the basic concepts, theories and application in geomorphology

**Learning outcomes:** this course will enable the students to understand the basic concepts ,theories and its applications in various geomorphological phenomena.

<b>Unit</b>	<b>Title</b>	<b>No. of hours</b>	<b>Marks</b>
I	<p><b>Introduction to geomorphology</b> Nature, scope and significance of geomorphology. Fundamental concepts and approaches in geomorphology. Recent trend in Geomorphology and application (Mining, Agriculture, Environment, Road and water transport and Urban planning)</p> <p><b>Theories in geomorphology</b></p> <ul style="list-style-type: none"> <li>• Continental drift theory</li> <li>• Theories of Isostasy: Airy and Pratt</li> <li>• Concept of Sea floor Spreading,</li> <li>• Plate tectonic and mountain building: concept, plate margins, types and movements.</li> </ul>	20	35
II	<p><b>Earth's movement Process and form</b></p> <ul style="list-style-type: none"> <li>• Endogenetic and Exogenetic forces: Concepts, processes and types</li> <li>• Folds, Fault, rift valleys</li> <li>• Vulcanicity and landforms</li> <li>• Cycle of erosion: Davis and Penck</li> <li>• Theories of slope development: King and Wood</li> </ul>	15	25
III	<p><b>Geomorphic landforms and Processes</b></p> <ul style="list-style-type: none"> <li>• Desert</li> <li>• Karst</li> <li>• Glacial</li> </ul>	10	15
		45	75

## References:

1. Ahmed, E., 2005: Geomorphology, Kalyani Publishers, New Delhi
2. Bloom, Arthur L., 2004: Geomorphology – A Systematic Analysis of Late Cenozoic Landforms, Prentice Hall, Engle Wood Cliff, N.J
3. Chorley, Richard J., 2002: Spatial Analysis in Geomorphology, Harper and Row Publishers, New York, London.
4. Dayal, P. (2nd edition) 2006: A Textbook of Geomorphology, Shukla Book Depot, Patna
5. Sharma, H.S. (ed), 2002: Perspective in Geomorphology, Vol. I & IV, Concept, New Delhi.
6. Sharma, V.K., 2006: Geomorphology, Earth Surface Processes and Forms, Tata Mc. Graw Hill, New Delhi.
7. Sharma, V.K., 2006: Geomorphology, Earth Surface, Process and forms, Tata McGraw Hill, New York
8. Singh, S. 2005 : Geomorphology, Prayag Pustak Bhawan, Allahabad
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10. Strahler, A.N. 2006: Physical Geography, 3rd Ed., Wiley
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12. Wooldridge, S.W. and Morgan, R.S., 2000: The Physical Basis of Geography, Longman.
13. Worcestor, P.G., 2005: A Textbook of Geomorphology, Van Nostrand, 2nd Ed., East West Edition, New Delhi.

**CORE****Course Title: Practical in Basics of Geomorphology****Course Code: GEG-V.C-7****Marks: 25****Credits: 1****Duration: 15 sessions of 2 hours each**

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**Course Objectives:** The course aims to develop skills in basic geomorphological analysis

**Learning outcome:** After the completion of this course, students will be able to work independently on slope and fluvial analysis and reading physical aspect of toposheet.

Unit	Title	Practical sessions	Marks
I	Slope analysis: Elements , preparation of aspect map, Isotan and Isosin methods of slope analysis. River Morphometry: Calculation of various morphometric Parameters ( ordering, area, perimeter, stream length, frequency, bifurcation ratio, density)	10	12
II	Interpretation of S.O.I topographical Maps (2 exercises of any two themes) -Mountains, Plateaus, Plains, Coastal), Association of morphological features .	5	08
	Journal		5
		15	25

**References**

1. Chorley, Richard. J. (ed.), 2001: Water, Earth and Man, Methuen & Co., London
2. Goudie, Andrew, et al. (eds),2001: Geomorphological Technique, George Allen & Unwin, London
3. Gregory, K.J. and Walling, D.E., 2003: Drainage Basin – Form and Process, Edward Arnold, London
4. Kale V.S. and Gupta Avijit (2000): Introduction to Geomorphology, Orient Black Swan Publications
5. King, C.A.M., 2006: Techniques in Geomorphology, Edward Arnold, London
6. Leopold, L.B, Wolman, M.G. and Miller, J.P., 2004: Fluvial Processes in Geomorphology, Freeman, San Francisco
7. Misra, R.P. and Ramesh, A., 2009: Fundamentals of Cartography, Concept Publishing Co., New Delhi
8. Monkhouse, F.J. and Wilkinson, H.R., 2009: Maps and Diagrams, B.I. Publications Pvt. Ltd., New Delhi
9. Singh, R.L. and Singh Rana P.B., 2008, Elements of Practical Geography, Kalyani Publishers, New Delhi
10. Sarkar, Ashis, 2000: Practical Geography: A Systematic Approach, Orient Longman Pvt. Ltd., Kolkata.
11. Singh, Savindra (2006): Geomorphology, Prayag Pustak Bhavan, Allahabad
12. Strahler, A.N., 2000: Physical Geography, 3rd Ed., Wiley.

**ELECTIVE****Course Title: Basics of Climatology****Course Code: GEG-V. E-9****Marks: 75****Credits: 3****Duration: 45 lectures of 1 hour each**

=====

**Course Objectives:** The focus of this Course is to introduce key concepts of climatology in general and Indian monsoon in details.

**Learning outcomes:** On completion of this course students will able to understand and apply the concepts in analyzing and applying climatological concepts.

Unit	Title	No. Lectures	Marks
I	<b>Fundamental of Atmospheric circulation</b> Basics of water cycle, Atmospheric Stability. Cloud Development and Stability. Atmospheric Disturbance, Air Masses and its types. Fronts and types. Tropical and temperate Cyclones. The Global Pattern of Climate. El-nino and la-nina.	15	25
II	<b>Indian Climatology: Monsoons</b>  <b>Pre monsoon:</b> Cyclonic storms, frequency, cyclone genesis, intensity, landfall and associated weather. <b>South West monsoon :</b> onset and advance of southwest monsoon, links to El Nino/Southern Oscillation, Indian Ocean Dipole and Madden Julian Oscillation Index. <b>Post monsoon:</b> withdrawal of southwest monsoon, Northeast monsoon, cyclonic storms in the Indian seas, trends in cyclonic disturbances, western disturbances, Easterly waves..	15	25
III	<b>The Earth's Changing Climate</b> <b>Climate change and sea level rise:</b> Ocean in relation to long changes in Monsoon, tropical cyclones and climate, Land use change and climate. Cloud burst, clouds seeding and artificial rain. Climate services: Climate and application in agriculture, water, health and disaster risk reduction and urban planning.	15	25
		45	75

## REFERENCES

1. Barry R.G. and Chorley, R. J., 2009: Atmosphere, Weather and Climate, Routledge
2. Bunnett R.B. , 1993: Physical geography in Diagrams, Longman
3. Critchfield, H.J, 1998 : General Climatology, Prentice-Hall
4. Lal, D.S., 2011: Climatology, Sharda Pustak Bhavan
5. Monkhouse, F.J., 1975 – Principles of Physical Geography , Hodder Murray Publishers
6. P. Birot, 1966: General Physical Geography, Longman, Green & Co Strahler, A.H., 1983: Modern Physical Geography, John Wiley and Sons
7. Strahler A. M. and Strahler A.H., 1983: Elements of Physical Geography, John Wiley and Sons
8. Stringer, E.T., 1972: Foundation of Climatology: An Introduction to Physical, Dynamic, Synoptic, and Geographical Climatology, W.H. Freeman & Co. Ltd.
9. Tikka - R.N., 1998 - Physical Geography. Kedar Nath Ram Nath, Meerut
10. Trewartha, G.T., 1968: Introduction to Climate, McGraw-Hill

**ELECTIVE****Course Title: Basics of Climatology (Practical)****Course Code: GEG-V. E-9****Marks: 25****Credits: 01****Duration: 15 sessions of 2 hours each**

=====

**Course Objectives:** The objective of this course is to provide basic practical tools in understanding weather and climate.

**Learning outcome:** At the end of this course, students will be able interpret and analyze weather and climatic phenomena.

Unit	Title	Practical sessions	Marks
I	Representation of weather phenomena using isolines Isohyets map Isotherm map Isobars Representation of wind data Evapotranspiration Determining atmospheric stability Preparation of weather Station Model.	05	8
II	<ul style="list-style-type: none"> <li>• Study of weather symbols and IMD weather charts. Interpretation of IMD weather charts (at least 1 map of three seasons)</li> <li>• Visit to IMD for hands- on- training: handling of weather instruments, taking readings, temperature, pressure, sunshine chart interpretation and forecasting. (seven Days Training in IMD)</li> </ul>	10	12
III	Journal		5
		15	25

**References**

1. Bygot, J., 2001: An Introduction to Map Work and Practical Geography
2. Campbell, J., 2004: Introductory Cartography, Prentice Hall, Inc Englewood
3. Chorley, Richard. J. (ed.), 2001: Water, Earth and Man, Methuen & Co., London
4. Misra, R.P. and Ramesh, A., 2009: Fundamentals of Cartography, Concept Publishing Co., New Delhi
5. Monkhouse, F.J. and Wilkinson, H.R., 2009: Maps and Diagrams, B.I. Publications Pvt. Ltd., New Delhi
6. Raisz, E., 2005: General Cartography, McGraw Hills Co., London
7. Robinson, A.H., et al, 2003: Elements of Cartography, John Wiley and Sons, New York
8. Singh, R.L., 2000: Elements of Practical Geography, Kalyani Publishers, New Delhi
9. Singh, R ; Singh L.R., 2001: Mapworks in Practical Geography, Central book Depot, Allahabad

## ELECTIVE

**Course Title: Basics of Oceanography (Theory)**

**Course Code: GEG- V. E-10**

**Marks: 75**

**Credits: 3**

**Duration: 45 lectures of 1 hour each**

=====

**Course Objectives:** The course provides the basic conceptual framework of oceanography, its dynamism and the contemporary issues associated with Oceans.

**Learning outcomes:** At the end of this course, students are expected to have an understanding of fundamental concepts of oceanography and issues.

Unit	Title	No. of hours	Marks
I	<b>Introduction to oceanography</b> - Development of oceanography as a discipline, Significance and scope, General bottom relief features. Study of Pacific, Atlantic and Indian oceans. Heat budget of oceans.	15	25
II	<b>Properties of ocean water</b> - Salinity, Temperature, Density, and relation among them. <b>Marine Deposits:</b> Classification, sources, distribution (Atlantic and Indian ocean)	15	25
III	<b>Issues in Oceanography</b> - Sea level change, acidification, Ballast water Exclusive Economic Zones in oceans.	15	25
		45	75

## References

1. K. Siddhartha Oceanography, 2000: A Brief Introduction, Kislaya publishers
2. Defant, A., 2001: Physical Oceanography, Vol. I, Pergamon Press
3. Gautam, Alka. 2004. Climatology and Oceanography. Rastogi Publication-Meerut, UP.
4. Sharma R. C. and Vatal M., 2003: Oceanography for Geographers, Chaitanya Publishing House, Allahabad.
5. Lal, D.S., 2003: Oceanography, Sharda Pustak Bhavan, Allahabad

**ELECTIVE**

**Course Title: Basics of Oceanography (Practical)**

**Course Code: GEG- V. E-10**

**Marks: 25**

**Credits: 1**

**Duration: 15 sessions of 2 hours each**

=====  
**Course Objectives:** The course aims to develop skills of field sampling and analysis of ocean water and interpretation of hypsometric curves and bathymetric charts.

**Learning outcome:** After the completion of this course, students will learn ocean water testing and reading of bathymetric and hydrographic charts.

Unit	Title	Practical sessions	Marks
1	Signs and symbols in hydrographic charts and reading of hydrographic chart. Reading of Bathymetric, reading of Naval Hydrographic Chart, and Maritime Bathymetric charts. Plotting of Bathymetric and Hypsometric curves.	10	15
2	Water analysis – salinity PH Conductivity and TDS.	05	05
3	Journal and Viva		05
		15	25

**References**

1. Bygot, J., 2001: An Introduction to Map Work and Practical Geography
2. Campbell, J., 2004: Introductory Cartography, Prentice Hall, Inc Englewood
3. Jackson, R.H. and Hudmar, L.E., 2001: Regional Geography: Issues for today
4. Misra, R.P. and Ramesh, A., 2005: Fundamentals of Cartography, Concept Pub. Co., New Delhi
5. Monkhouse, I.J. and Wilkinson, H.R., 2001: Maps and Diagram, B.I. Publication, New Delhi
6. Raisz, E., 2005: General Cartography, McGraw Hills Co., London
7. Robinson, A.H., et al, 2003: Elements of Cartography, John Wiley and Sons, New York
8. Singh, R.L., 2000: Elements of Practical Geography, Kalyani Publishers, New Delhi
9. Singh, R ; Singh L.R., 2001: Mapworks in Practical Geography, Central book Depot, Allahabad



**ELECTIVE****Course Title: Geography of Rural Settlement****Course code: GEG-V.E-11****Marks: 75****Credit: 3****Duration: 45 sessions of 1 hour each**  
=====

**Objective:** To acquaint the students with the spatial and structural characteristics of rural settlements and to bring about awareness on special issues related to rural settlements.

**Learning Outcomes:**

The students will be able to appreciate the role of geography in rural landscape. They will be also equipped with the skills of rural settlement analysis, understanding the settlements types and changing landscape at local and regional level.

<b>Unit</b>	<b>Course Content</b>	<b>No. Of hours</b>	<b>Marks</b>
<b>I</b>	Introduction to settlement Geography, importance of settlement geography, Definition, Nature, approaches and scope of geography of rural settlements. Status and future of Rural Geography in India Evolution of Rural settlements and the process of settling. Role of sites in evolution of rural settlements, Functional Classification of rural Settlements.	<b>15</b>	<b>25</b>
<b>II</b>	Spatial organization of rural settlements: size, shape, distribution and hierarchy of settlements. Spacing of rural Settlements (Nucleated and Dispersed), Types of rural settlements.	<b>15</b>	<b>25</b>
<b>III</b>	Internal morphology of villages ( Any one village- Goa), Material used , house types in different regions of India and field patterns( Primitive , rectangular and Contour type ), Case Study of two villages of Goa .: Impact of urbanization on house types, pattern, functions and growth of rural settlements. Changing face of rural India.	<b>15</b>	<b>25</b>
		<b>45</b>	<b>75</b>

## References:

1. Cloke Paul, (2013), An Introduction to Rural Settlement Planning, Published by Routledge, Milton Park, Abingdon, Oxon OX14 4SB, UK
2. Clout Hugh (2007) Contemporary Rural Geographies, Routledge, Milton Park, Abingdon, Oxon OX144RN
3. Ghosh Sumita,: Introduction to Settlement Geography, Orient longman, 1998.
4. Mandal. R. B, (2001), Introduction to Rural Settlement, Concept Publishing Company, New Delhi.
5. Singh R.L. et al: Reading in rural settlement: Geography Tara Publications, Varanasi.
6. Singh R.Y., 1998: Geography of Settlements, Rawat publications
7. Thomas Chris (2001) Rural Geography, Routledge, London
8. Woods Michael, (2005), Rural Geography: Processes, Responses and Experiences in Rural Restructuring, SAGE Publications Ltd, University of Wales, Aberystwyth
9. Woods Michael, Holloway Lewis & Panelli Ruth (2012) Key Concepts in Rural Geography, Sage Publication, London

## ELECTIVE

**Course title: Fundamentals of Rural Geography (Practical)**

**Course Code: GEG-V.E-11**

**Marks: 25**

**Credits: 01**

**Duration: 15 Sessions of 2 hours each**

=====  
**Course Objective:** The objective of this course is to familiarize the students with the characteristics of rural settlements.

**Learning outcomes:** The students are expected to know that a settlement is a place where people live, recognize that there are different sizes of settlements, recognize that each settlement serves a range of purposes or functions which have changed through time and learn the location of different-sized settlements.

Unit	Title	Practical sessions	Marks
I	<b>Methods in Rural Settlement</b> <ul style="list-style-type: none"><li>• Methods of concentration of rural settlements</li><li>• Methods for measuring spacing of settlements</li><li>• Z test for environmental factors responsible for pattern variation of settlements</li><li>• Measurement of shape (pattern) of rural settlements</li></ul>	8	10
II	<b>Village Survey: Pre-field work, Field work and Post Field work</b> <ul style="list-style-type: none"><li>• Case Study for report:<ol style="list-style-type: none"><li>1. Collection of Socio-Economic and Physical Data</li><li>2. Classification and Tabulation of Data</li><li>3. Inter-relation and Analysis of Data, Maps and Diagrams</li></ol></li></ul>	7	10
III	Journal/ Report writing		5
		<b>15</b>	<b>25</b>

### References:

1. Cloke Paul, (2013), An Introduction to Rural Settlement Planning, Published by Routledge, Milton Park, Abingdon, Oxon OX14 4SB, UK
2. Clout Hugh (2007) Contemporary Rural Geographies, Routledge, Milton Park, Abingdon, Oxon OX144RN
3. Mandal. R. B, (2001), Introduction to Rural Settlement, Concept Publishing Company, New Delhi.
4. Thomas Chris (2001) Rural Geography, Routledge, London
5. Woods Michael, (2005), Rural Geography: Processes, Responses and Experiences in Rural Restructuring, SAGE Publications Ltd, University of Wales, Aberystwyth
6. Woods Michael, Holloway Lewis & Panelli Ruth (2012) Key Concepts in Rural Geography, Sage Publication, London

**ELECTIVE**

**Course Title: Geography of Urban Settlement**

**Course code: GEG-V.E-12**

**Marks: 75**

**Credit: 3**

**Duration: 45 sessions of 1 hour each**

=====

**Course objective:** To acquaint the students with the spatial and structural characteristics of urban settlements and to bring about awareness on special issues related to urban settlements.

**Learning Outcomes:** The students will be able to appreciate the role of geography in urban landscape. They will also develop understanding of various concepts of urbanization, urban systems and will be able to address certain issues of urban development.

<b>Unit</b>	<b>Course Content</b>	<b>No. Of hours</b>	<b>Marks</b>
<b>I</b>	Nature, approach and scope of urban geography. Development of urban geography. Definition of urban places, problems of defining urban places in Indian Context. Site and situations of urban places (towns and cities) Functional classification of towns	<b>15</b>	<b>25</b>
<b>II</b>	Hierarchy of Urban settlements, Urban morphology, theories related to urban landuse. City- Region, concept, urban systems; rank size and Primate City Model.	<b>15</b>	<b>25</b>
<b>III</b>	Problems of urbanization with special reference to slums, pollution, urban climate, garbage management. Urban planning and sustainable development of cities, concept of smart cities in India.	<b>15</b>	<b>25</b>
		<b>45</b>	<b>75</b>

**References:**

1. Cater Harold (2002 )The Study of Urban Geography, Arnold, London , U K
2. Fisher W.B (2013) Urban Geography, Elsevier Science
3. Hall T. & Barret L.H (2012) Urban Geography, Routledge, London
4. Hall Tim (2010) Urban Geography (Third Edition) Routledge, London
5. Siddhartha & Mukherjee (2007) Cities, Urbanisation and Urban Systems, Kisalaya Publications, New Delhi

**ELECTIVE**

**Course Title: Geography of Urban Settlement (Practical)**

**Course code: GEG-V.E-12**

**Marks: 25**

**Credit: 1**

**Duration: Session of 2 hours each**

=====  
**Objectives:** This course aims to equip students with practical skills to understand demographic and linkages in Settlement geography.

**Learning Outcomes:** The students will be able to apply certain basic tools in demographic, urban hierarchy and ranking of urban settlement. The students will be able to confidently carry out basic research in urban geography.

<b>Unit</b>	<b>Content</b>	<b>Practical sessions</b>	<b>Marks</b>
<b>I</b>	<b>Demographic aspects of urban geography:</b> Time series analysis of urban growth, Applicability of Rank Size rule with settlement data (normal and log), Urban density zoning, Analysis of occupational diversity and specialisation, Calculation of CBD by Vance and Murphy. Calculation of Urban Sprawl. Urban Proportion, level of urbanization and Urban Graph.	<b>8</b>	<b>10</b>
<b>II</b>	<b>Mapping of Urban linkages:</b> Network analysis (Alpha, Beta and Gamma indices), Flow matrix, Connectivity mapping, Shortest path and longest path analysis. Calculation of Primate City, Hierarchy of settlements	<b>7</b>	<b>10</b>
<b>III</b>	<b>Journal</b>		<b>5</b>
		<b>15</b>	<b>25</b>

**References:**

1. Cater Harold (2002 )The Study of Urban Geography, Arnold, London , U. K
2. Fisher W.B (2013) Urban Geography, Elsevier Science
3. Hall T. & Barret L.H (2012) Urban Geography, Routledge, London
4. Hall Tim (2010) Urban Geography (Third Edition) Routledge, London
5. Siddhartha & Mukherjee ( 2007) Cities, Urbanisation and Urban Systems, Kisalaya Publications, New Delhi

**SYLLABUS FOR AUTONOMOUS COURSES IN GEOGRAPHY  
BACHELOR OF ARTS  
SEMESTER VI**

**CORE**

**Course Title: Fundamentals of Population Geography (THEORY)**

**Course code: GEG-VI.C-8**

**Marks: 75**

**Credits: 3**

**Duration: 45 lectures of 1 hour each**

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**Course Objectives:** To understand and evaluate the basic concept of Population dynamics, to enable students to identify different issues related to population.

**Learning Outcomes:** After completing this course, students will have understanding of Population dynamics and be able to understand population related issues.

Unit	Topic	No. of hours	Marks
I	<b>Nature and Scope:</b> Determinants of population growth Definition, Nature and Scope, Spatial Distribution of Population-factors, Measures of Population Density, World and India, Population Growth- Global Trends, Trends in India. Demographic Transition Model.	15	25
II	<b>Social - Economic Attributes:</b> Population composition - Age and Sex, Urban and Rural and Economic structure. Basic Patterns, Age-Sex Structure of Developed and Developing Countries <b>Migration:</b> Nature, Types, Classification, Determinants, Consequences.	15	25
III	<b>Population Policies and Issues:</b> Population Policies in Context of Growth- Less Developed Countries & More Developed Countries. Evolution of Family Welfare Programme in India. National Population Policies in India Gender Issues and Population Dividend in India	15	25
		45	75

**References:**

1. Bhende and Kanitkar (2011), Principles of Population Studies, Himalaya Publishing House, Delhi
2. Chandna R. C.(2000), Geography of Population:Concept, Determinants and Patterns, Kalyani Publishers, New Delhi
3. Clarke J. I (1972), Population Geography, Pergamon Press, Oxford.
4. Mitra & Kamaljit Chandra, (2005) Population Studies and Demography: Vol. 4 Concept of Population Geography, Delhi
5. Sundaram, K.V. & Nangia, Sudesh (1986), Population geography- Contributions to Indian Geography. Vol 6 , Heritage Publications

**CORE**

**Course Title: Practicals in Fundamentals of Population Geography (PRACTICAL)**

**Course code: GEG-VI.C-8**

**Marks:25**

**Credits: 1**

**Duration: 15 Session of 2 hours each**

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**Course Objectives:** The practical aims to equip student with the skills to find out the different demographic attributes.

**Learning Outcomes:** After completing this course, students will have basic understanding of population characteristics that can be statistically and cartographically presented.

<b>Unit</b>	<b>Topic</b>	<b>Marks</b>	<b>Practical Session</b>
I	a) Arithmetic Density (calculation and representation) b) Rural and urban Density Population Concentration Index Proportional Circles.	10	5
II	a) Population Pyramids. b) Calculation of Population Projection. (any one method)  Field visit to Census Department	10	10
III	Journal	5	

**\* All practicals to be done on computer**

**References:**

- 1) Beaujeu-Garnier J (1966): Geography of Population, Longmans, London
- 2) Census of India Series – 1 India Provisional Population Tables, Published by Register General and Census Commissioner, India 2001.
- 3) Chandna, R.C. (2010): Geography of Population : Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi,.
- 4) Clark, L. 1965: Population Geography, Permagon press, New York.
- 5) Monkhouse F.J. and Wilkinson H.R. (1966): Maps and Diagrams: Their Compilation and Construction, Methuen Publishing Ltd. London
- 6) Singh Gopal (1998): Map Work and Practical Geography; Vikas Publishing House
- 7) Trewartha, G.T. 1969: A Geography of Population : World Patterns, John Willey and Sons, Inc. New York

**ELECTIVE****Course Title: Introduction to Regional Planning (THEORY)****Course code: GEG-VI.E-13****Marks: 75****Credits: 3****Duration: 45 lectures of 1 hours each**

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**Course Objectives:** To understand and evaluate the concept of Regional Planning, its role and relevance in region planning. To identify issues relating to the development of a region. To identify the causes of regional disparities in development, perspectives and policy imperatives.

**Learning Outcomes:** At the end of this course, students are expected to understand the concept of Regional Planning and its variations across time and space. They will be able to correlate and differentiate the various types of regional planning and apply the same to the local settings.

Unit	Topic	No. of hours	Marks
I	<b>Definition and Methods:</b> Planning - Definition and method, Approach, Need and Scope, Concept of Space, Area and Region and Time. Level and hierarchy of planning Areal Basis of Planning.	15	25
II	<b>Types of Planning and Approach:</b> Planning Region: Formal, Functional Regions: Land Use Planning. Delineation region: Criteria and delineation methods Regional Policy and Regional Planning, National, State, Local Planning Sectoral/Area , Physical/Perspective	15	25
III	<b>Levels of development, disparities and Case Studies:</b> Indicators of development, Planning Unit Economic, Social, Demographic and Ecological implications	15	25
		45	75

**References:**

1. Chand, Mahesh and Puri K(1983), Regional Planning in India, All Publishers, New Delhi
2. Freeman T. W.(1958), Geography and Planning, Hutchinsen University, London
3. Gadgil D.R., Planning in India, Asia Publishing house
4. Glicksen A. (1955), Regional Planning and Development, Leiden
5. John Glasson and Tim Marshall (2007): Regional Planning; Taylor and Francis
6. Mishra R.P. Regional Planning, A Reader , Concept Tools, Techniques And Case Studies, Mysore University Press.
7. Sundaram K. V. (1977), Urban and Regional Planning in India, Vikas Publishing House, New House, New Delhi.



**ELECTIVE**

**Course Title: Practicals in Regional Planning (PRACTICAL)**

**Course code: GEG-VI.E-13**

**Marks:25**

**Credits: 1**

**Duration: 15 Session of 2 hours each**

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**Course Objectives:** The objective of practical is to develop skills among the students in the practical ways of planning for a region (district/mega/metro Region). The focus is to understand the scale of the problem and how to tackle them.

**Learning Outcomes:** After completing this course, the student will have substantial knowledge of basic concepts in regional planning from a geographer's perspectives.

Unit	Topic	Practical Sessions	Marks
I	<b>Delineation of planning region</b> Five functional regions	7	10
II	<b>Delineation of planning region</b> Five formal regions	8	10
III	Journal		5

**References:**

1. Chand Mahesh & V.K. Puri, (2000), Regional Planning In India
2. Kumar, et. al., (2016): Urban and Regional Planning Education-Learning for India. Springer, Singapore
3. Matthew Dalbey, (2002): Decentralization and Regional Planning: Practical and Ideological Problems, Springer, U.S.
4. United States. National Resources Planning Board(1940), Is Planning Practical for Your Town?: New England Regional Planning Commission, Boston, Mass
5. William Ian Morrison, Peter Smith, 1977: Input-Output Methods In Urban And Regional Planning: A Practical Guide; Pergamon Press

**ELECTIVE****Course Title: Fundamentals of Economic Geography (THEORY)****Course Code: GEG-VI. E-14****Marks: 75****Credits: 3****Duration: 45 lectures of 1 hour each****Course Objectives:**

The course introduces economic geography as a dynamic, diverse and contested body of knowledge. Students will be familiar with basic concepts of economic geography.

**Learning outcomes:**

After completing the course, student will gain insights of the concepts and theoretical approaches in Economic Geography.

Unit	Topic	No. of hours	Marks
I	Fundamental concept in Economic Geography- meaning, nature, scope and branches. Approaches in Economic Geography.	15	25
II	Models and Theories in Economic geography <ul style="list-style-type: none"> <li>• Agricultural landuse _Vohn Thunen</li> <li>• Industrial location - Weber</li> <li>• Central place - Christaller</li> </ul>	15	25
III	Applications of economic geography.	15	25
		45	75

**References:**

1. Combes Pierre-Philippe, Mayer Thierry and Thisse Jacques-François (2008) Economic Geography the Integration of Regions and Nations. Princeton University Press Princeton and Oxford, Princeton, New Jersey
2. Hanink Dean M. (2012) Principles and Applications of Economic Geography: Economy, Policy, Environment, John Wiley & Sons
3. Miroslav N. Jovanovic(2009) Evolutionary Economic Geography, Location of production and the European Union. Routledge, London and New York
4. M. Sokol (2011) Economic geography. Undergraduate study in Economics, Management, Finance and the Social Sciences, University of London.
5. Pachura Piotr\_(2011) The Economic Geography of Globalization, (ED) InTech Pub.
6. Sharmistha Bagchi-Sen and Helen Lawton Smith (2006) Economic Geography Past, present and future (Edited). Routledge, USA.
7. Siddhartha K. (2016) Economic Geography, Kitab Mahal

**ELECTIVE****Course Title: Practicals in Fundamentals of Economic Geography (PRACTICAL)****Course Code: GEG-VI-E-14****Marks: 25****Credits: 1****Duration: 15 sessions of 2 hours each****Course Objectives:**

The aim is to equip students with the knowledge of industrial location theories and calculation of parameters of location theory

**Learning outcomes:** This will enable students to understand and apply theories and models of economic geography in present day context.

Unit	Topic	Practical Sessions	Marks
I	Calculation of bid rent model Industrial location using Webbers Calculation of K3, K4 and K7	10	10
II	Field work: data collection, representation and report writing.	10	10
III	Journal		05
		<b>15</b>	<b>25</b>

**References:**

1. Combes Pierre-Philippe, Mayer Thierry and Thisse Jacques-François (2008) Economic Geography the Integration of Regions and Nations. Princeton University Press Princeton and Oxford, Princeton, New Jersey
2. Hanink Dean M. (2012) Principles and Applications of Economic Geography: Economy, Policy, Environment, John Wiley & Sons
3. Miroslav N. Jovanovic(2009) Evolutionary Economic Geography, Location of production and the European Union. Routledge, London and New York
4. M. Sokol (2011) Economic geography. Undergraduate study in Economics, Management, Finance and the Social Sciences, University of London.
5. Pachura Piotr\_(2011) The Economic Geography of Globalization, (ED) InTech Pub.
6. Sharmistha Bagchi-Sen and Helen Lawton Smith (2006) Economic Geography Past, present and future (Edited). Routledge, USA.
7. Siddhartha K. (2016) Economic Geography, Kitab Mahal

**ELECTIVE****Course Title: Geography of Tourism (THEORY)****Course Code: GEG-VI.E-15****Marks: 75****Credits: 3****Duration: 45 lectures of 1 hour each**

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**Course Objectives:** The course aims to understand the basics of tourism and its impact on physical and human environments.

**Learning outcomes:** This course will enable the students to understand the aspects of tourism and also be familiarized with local tourism.

Unit	Title	No. of hours	Marks
I	<b>Introduction to Tourism:</b> <ul style="list-style-type: none"> <li>• Meaning, definition and concept of Tourism</li> <li>• Characteristics and types of Tourism</li> <li>• Historical development of Tourism</li> <li>• Scope and importance of Tourism</li> <li>• Careers in Tourism</li> <li>• Trends in Tourism Geography</li> </ul>	15	25
II	<b>Geographic factors in Tourism Development:</b> <ul style="list-style-type: none"> <li>• Physical factors: Relief, climate, vegetation, water bodies</li> <li>• Socio-cultural factors: historical, cultural, economic, religious factors</li> </ul> <b>Geographic Areas and tourism impacts:</b> <ul style="list-style-type: none"> <li>• Economic, socio-cultural, environment and sustainable development of tourism</li> </ul>	20	25
III	<b>Tourism resources in Goa</b> <ul style="list-style-type: none"> <li>• Development of tourism in Goa</li> <li>• Types of tourism in Goa</li> <li>• Social Economic and Environmental issues</li> <li>• Emerging careers in tourism in Goa</li> </ul>	10	25
		45	75

**References:**

1. Bhatia, A.K., 2002: Tourism Development: Principles and Practices, Sterling Publishers Pvt. Ltd
2. Claude Alvares (2002): Fish Curry and Rice; A Goa Foundation Publication
3. Dhar Premnath, 2009: Development Of Tourism & Travel Industry: An Indian Perspective, Kanishka Publishers
4. Hall. C.M, Page Stephen, 2014: The Geography of Tourism and Recreation: Environment, Place, Space, Routledge Taylor and Francis Group, London and New York
5. Velvet Nelson, 2013: An Introduction to Geography of Tourism, Rowman & Littlefield Publishers
6. Williams Stephen, 2009: Tourism Geography: A new synthesis, Routledge Taylor and Francis Group, London and New York

**ELECTIVE**

**Course Title: Practicals in Geography of Tourism (PRACTICAL)**

**Course Code: GEG-VI.E-15**

**Marks: 25**

**Credits: 1**

**Duration: 15 sessions of 2 hours each**

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**Course Objectives:** This practical course aims to understand the role of Geography in Tourism.

**Learning outcomes:** This course will enable the students to achieve the knowledge and skills in tourism Geography.

Unit	Title	Practical Sessions	Marks
I	Preparation and understanding of Tourist maps Preparation tourist circuit maps	05	10
II	Preparation of Information Charts of tourism sites of India and Goa Field visit, preparing a brochure and presentation	10	10
	Journal		5
		15	25

**References**

1. Bhatia, A.K., 2002: Tourism Development: Principles and Practices, Sterling Publishers Pvt. Ltd
2. Claude Alvares (2002): Fish Curry and Rice; A Goa Foundation Publication
3. Dhar Premnath, 2009: Development Of Tourism & Travel Industry: An Indian Perspective, Kanishka Publishers
4. Hall. C.M, Page Stephen, 2014: The Geography of Tourism and Recreation: Environment, Place, Space, Routledge Taylor and Francis Group, London and New York
5. Velvet Nelson, 2013: An Introduction to Geography of Tourism, Rowman & Littlefield Publishers
6. Williams Stephen, 2009: Tourism Geography: A new synthesis, Routledge Taylor and Francis Group, London and New York

**ELECTIVE****Course Title: Quantitative Techniques in Geography****Course Code: GEG-VI.E-16****Marks: 100****Credit: 04****Duration: 60 hours**

**Course objectives:** To introduce statistical techniques, relevant to geographical research. To acquaints students about their potentials and applications.

**Learning outcomes:** The knowledge of drawing inferences using the geographical database. An understanding and appreciation of the mutual dependence of different techniques and their relevance.

Unit No.	Course Content	No. of hours	Marks
I	<b>Non- Parametric Statistics</b> Co-relation and Regression analysis a) Scatter Diagram b) Karl Person's Co-efficient correlation c) Spearman's rank correlation d) Kendall's rank correlation regression analysis. <b>Parametric</b> Hypothesis testing a) Meaning, types of hypothesis Testing of hypothesis i) Chi-square test ii) ANOVA iii) t-test	15	30
II	Matrices & Indices a) Introduction to matrices b) Index numbers: unweighted, weighted indices and Cost of Living Index	15	30
III	Analysis of geographical dataset using the above statistical techniques, interpretation and report writing using computer.	30	40
		60	100

**REFERENCES**

1. Gregory, 1963: Statistical methods and the Geographer, Longman S. London
2. Gupta S.P.; 1979: Practical Statistics; S. Chand and Co.
3. Johnson R.J. 1980: Multivariate statistical Analysis in Geography, Longman
4. Khan Z.A 1998: Text book of practical Geography – New Delhi
5. Pal Saroj K. 1982: Statistical Techniques: A basic approach to Geography: Tata –Mc Graw Hill, New Delhi.
6. P.K. Majumdar 2002 : Statistics: A Tool for Social Sciences, Rawat Publications: Jaipur & New Delhi.
7. Rastogi R.S.(2005): Elementary Statistics: Rohit Publications – Delhi-110 006
8. Succheti D.C. and Kapoor V.K. 2002 - statistics (Theory, methods and application)
9. Zamir Alvi 2000: Statistical Geography: Method and Applications Rawat Publications, New Delhi