

**DEPARTMENT OF GEOGRAPHY  
KOHIMA SCIENCE COLLEGE (AUTONOMOUS),  
JOTSOMA**

**REVISED SYLLABUS  
FOR  
UNDER GRADUATE  
CHOICE BASED CREDIT SYSTEM  
GEOGRAPHY HONOURS  
2021**

**CHOICE BASE CREDIT SYSTEM BA/BSc GEOGRAPHY HONOURS COURSE STRUCTURE**

SEMESTER	COURSE	COURSE NAME	COURSE CODE	Ability Enhancement Compulsory Course (AECC)	Skill Enhancement Course (SEC)	Discipline Specific Elective (DSE)	Generic Elective (Optional) (GE)
<b>I</b>	Core 1	Physical Geography (Theory)	GGC 1.11	(English/Hindi/MIL Communication)/ Environmental Science			Introduction to Physical Geography (Theory) GGG 1.11
		Fundamental Cartography (Practical)	GGC 1.12				
	Core 2	Human Geography (Theory)	GGC 1.21				Thematic Cartography (Practical) GGG 1.12
		General Cartography (Practical)	GGC 1.22				
<b>II</b>	Core 3	Geomorphology (Theory)	GGC 2.11	(English/Hindi/MIL Communication)/ Environmental Science			Human Geography (Theory) GGG 2.11
		Cartographic Technique 1(Practical)	GGC 2.12				
	Core 4	Resource Geography	GGC 2.21				General cartography (Practical) GGG 2.12
		Map Projection 1 (Practical)	GGC 2.22				
<b>III</b>	Core 5	Climatology (Theory)	GGC 3.11		GGS 3.12 (a) Remote Sensing (Practical) <b>OR</b> GGS 3.12 (b) Advanced Spatial Statistical Techniques (Practical)		Geography of India (Theory) GGG 3.11
		Graphical representation of Weather Data (Practical)	GGC 3.12				
	Core 6	Economic Geography (Theory)	GGC 3.21				Introduction to Statistical Method (Practical) GGG 3.12
		Socio-Economic Survey (Practical)	GGC 3.22				
	Core 7	Settlement Geography (Theory)	GGC 3.31				
		Survey (Practical)	GGC 3.32				
<b>IV</b>	Core 8	Hydrology and Oceanography (Theory)	GGC 4.11		GGS 4.12 (a) Geographical Information System (Practical) <b>OR</b> GGS4.12(b) Research Methods (Practical)		Regional Geography of North East India and Nagaland (Theory) GGG 4.11
		Map Projection 2 (Practical)	GGC 4.12				
	Core 9	Environmental Geography and Disaster management (Theory)	GGC 4.21				Paper Presentation (Practical) GGG 4.12
		Environment and Disaster Based Project Work (Practical)	GGC 4.22				
	Core 10	Geography of India (Theory)	GGC 4.31				
		Cartographic Technique II (Practical)	GGC 4.32				

SEMESTER	COURSE	COURSE NAME	COURSE CODE	Ability enhancement Compulsory Course (AECC)	Skill Enhancement Course (SEC)	Discipline Specific Elective (DSE)
V	Core 11	Regional Geography of Northeast India (Theory)	GGC 5.11			<p><b><u>DSE 1</u></b>            i) GGD 5.11(a) Population Geography (Theory)  <b>OR</b>            GGD 5.11(b) Geography of Health and Wellbeing (Theory)            ii) GGD 5.12 Cartographic Technique 1 (Practical)</p> <p><b><u>DSE 2</u></b>            i) GGD 5.21(a) Social Geography (Theory)  <b>OR</b>            GGD 5.21(b) Geography of Tourism (Theory)            ii) GGD 5.22 Presentation (Practical)</p>
		Data Based on Northeast India (Practical)	GGC 5.12			
	Core 12	Regional Planning and Development (Theory)	GGC 5.21			
		Filed Work	GGC 5.22			
VI	Core 13	Advanced Geomorphology (Theory)	GGC 6.11			<p><b><u>DSE 3</u></b>            i) GGD 6.11(a) Agricultural Geography (Theory)  <b>OR</b>            GGD 6.11(b) Urban Geography (Theory)            ii) GGD 6.12 Graphical Representation of Data (Practical)</p> <p><b><u>DSE 4</u></b>            i) GGD 6.21(a) Political Geography (Theory)            GGD 6.22(a) Cartographic Technique II (Practical)  <b>OR</b>            ii) Dissertation GGD 6.21 (b)</p>
		Cartographic Technique III (Practical)	GGC 6.12			
	Core 14	Geography of Nagaland (Theory)	GGC 6.21			
		Project: Field Study and Report (Practical)	GGC 6.22			

**SEMESTER – I**

**CORE 1**

**PHYSICAL GEOGRAPHY (THEORY)**

**Paper No: GGC 1.11**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *The objective of this paper is to understand the origin of the Earth and its various landforms.*

**UNIT I** Physical geography – nature, scope and Branches of Physical Geography; Origin of Solar System and Earth (Gaseous Theory by Kant, Nebular Hypothesis of Laplace and Big-Bang Theory).

**UNIT II** Earth's movement; Origin and types of rocks

**UNIT III** Composition and Structure of Atmosphere; Temperature

**UNIT IV** Surface configuration of the ocean floor; Temperature and Salinity of ocean water

**UNIT V** Major biomes of the world; Soil - processes of soil formation and soil types.

***Recommended Books and References:***

1. Bryant, H. Richard (2001): Physical Geography Made Simple, Rupa and Company, New Delhi.
2. Bunnett, R.B. (2003): Physical Geography in Diagrams, Fourth GCSE edition, Pearson Education (Singapore) Private Ltd.
3. Hugget, R.J. (2003): Fundamentals of Geomorphology, Routledge, London.
4. Monkhouse, F.J. (1979): Physical Geography, Methuen, London.
5. Negi, B.S. (2000): Physical Geography, Kedar Nath Ram Nath, Meerut.
6. Singh, S. (2003): Physical Geography, Prayag Pustak Bhawan, Allahabad. (2007): Physical Geography, Lakshmi Narain Agarwal, Agra.
7. Sharma, Y.K. (2007): Physical Geography, Lakshmi Narain Agarwal, Agra.
8. Strahler, A.N. and Strahler, A.m. (1992): Modern Physical Geography, John Wiley and Sons, New York.
9. Thornbury, W.D. (1960): Principles of Geomorphology, John Willey & Sons, New York.
10. Wooldrige, S.H and Morgan, R.S. (1959): The Physical Basis of Geography –An Outline of Geomorphology,

**SEMESTER – I**

**CORE 1**

**FUNDAMENTAL CARTOGRAPHY (PRACTICAL)**

**Paper No: GGC 1.12**

*Contact Hours: 30*

*Credit: 2*

- UNIT I** Concept of map and types of maps; Map Elements, Techniques of drawing map boundaries – international, national, state and district
- UNIT II** Types of scale; preparation of scale-simple, comparative and diagonal.
- UNIT III** Enlargement and Reduction of map by graphical method; combination of maps of different scales.
- UNIT IV** Viva voce and Practical Notebook.

***Recommended Books and References:***

1. Binch, T.W. (1968): **Maps: Topographical and Statistical**, Clarendon Press, Oxford.
2. Khan, Md. Z.A. (1998): **Text Book of Practical Geography**, Concept Publishing, New Delhi.
3. Lowmsberg, J.F. and Aldrich, F.T. (1979): **Introduction to Geographical Methods and Techniques**, Charles Marlin, Columbus.
4. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi.
5. Mohammad, N. (2008): **Practical Work in Geography**, Sunflower Publishers, New Delhi.
6. Sarkar, A.K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata.
7. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
8. Singh, R.L. and Singh, Rana P.B. (1993): **Elements of Practical Geography**, Kalyani Publishers, New Delhi.

## SEMESTER – I

### CORE 2

#### HUMAN GEOGRAPHY (THEORY)

Paper No: GGC 1.21

Contact Hours: 60

Credit: 4

**Objective:** To acquaint the students with the nature of man- environment relationship and to make them understand the spatial distribution of different racial groups.

**UNIT I** Nature and scope of Human Geography; development and branches of Human geography, approaches to study of human geography.

**UNIT II** Man-environment dynamic relationships; determinism, neo determinism and possibilism.

**UNIT III** Evolution of man; classification of races; characteristics of races and their broad distribution; Human adaptation to environment (Eskimos, Bushman, Gujjars).

**UNIT IV** Physical, economic and social factors influencing spatial distribution of world population; population growth, distribution and density; Migration- types and consequences.

**UNIT V** Settlement-Geographical factors influencing human settlement; rural and urban settlement; Types and patterns of rural settlement; Urban settlement- morphology and functional classification.

#### **Recommended Books and References:**

1. Beyman, E.F. (1995): **Human Geography** – Culture, Connections and Landscape, Prentice Hall, New Jersey.
2. Hazra, Jayati et al., (1977): **Dimensions of Human Geography**, Rawat Publications, Jaipur.
3. Hopkins, I. (1982): **An Introduction to Human Geography**, Widenfield and Nicolson, London.
4. Hussain, M. (1994): **Human Geography**, Rawat Publications, Jaipur.
5. James, R. (2010): **The Cultural Landscape – An Introduction to Human Geography**, Prentice Hall of India, New Delhi.
6. Leong Goh Cheng (2003): **Physical and Human Geography**, Oxford University Press, New Delhi.
7. Norton, W. (1995): **Human Geography**, Oxford University Press, New York.
8. Singh, L.R. (2005): **Fundamentals of Human Geography**, Sharda Pustak Bhawan, Allahabad.
9. Stoddard, R.H., Wishart, D.J. and Blouet, B.W.: **Human Geography**, Prentice-Hall, Englewood Cliffs, New Jersey.

**SEMESTER – I**

**CORE 2**

**GENERAL CARTOGRAPHY 1 (PRACTICAL)**

**Paper No: GGC 1.22**

*Contact Hours: 30*

*Credit: 2*

- UNIT I** Nature and scope of cartography, developments and trend, traditional versus modern cartography.
- UNIT II** Representation of distance and direction; cardinal points; conventional signs and symbols
- UNIT III** Population data representation by line, bar and Pie Diagram
- UNIT IV** Viva voce and Practical Note book

***Recommended Books and References:***

1. Kanetker, T.P. and Kulkarni, S.V. (1967): **Surveying and Levelling**, (Vol I and II), V.G. Prakashan, Poona
2. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi.
3. Sarkar, A. K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata
4. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
5. Steers, J. A. (1965): **An Introduction to the Study of Map Projection**, University of London Press, London
6. Talukdar, S. (2008): **Introduction to Map Projection**, EBH Publishers, Guwahati.

## SEMESTER - I

### GENERIC ELECTIVE 1

#### INTRODUCTION TO PHYSICAL GEOGRAPHY (THEORY)

#### PAPER NO: GGG 1.11

Contact Hours: 60

Credit: 4

**Objective:** *The objective of this paper is to understand the origin of the Earth and its various landforms. The inter-relation of various branches of geography with other branches of natural and social science.*

**UNIT I** Physical geography: nature and scope; Branches of Physical Geography; interrelations of geography with physical science and social sciences.

**UNIT II** Forces affecting Earth's crust (endogenetic and exogenetic): Geomorphic Processes.

**UNIT III** Major Landforms (Types and classification of Mountains and Plains): Cycle of Erosion (Davis), Penck's Theory.

**UNIT IV** Origin and types of rocks; classification of igneous, sedimentary and metamorphic rocks.

**UNIT V** Soils: processes and factors of soil formation, soil types, soil profile.

#### **Recommended Books and References:**

1. Bryant, H. Richard (2001): **Physical Geography Made Simple**, Rupa and Company, New Delhi.
2. Bunnett, R.B. (2003): **Physical Geography in Diagrams**, Fourth GCSE edition, Pearson Education (Singapore) Private Ltd.
3. Hugget, R.J. (2003): **Fundamentals of Geomorphology**, Routledge, London.
4. Monkhouse, F.J. (1979): **Physical Geography**, Methuen, London.
5. Negi, B.S. (2000): **Physical Geography**, Kedar Nath Ram Nath, Meerut.
6. Singh, S. (2003): **Physical Geography**, Prayag Pustak Bhawan, Allahabad. (2007): **Physical Geography**, Lakshmi Narain Agarwal, Agra.
7. Sharma, Y.K. (2007): **Physical Geography**, Lakshmi Narain Agarwal, Agra.
8. Strahler, A.N. and Strahler, A.M. (1992): **Modern Physical Geography**, John Wiley and Sons, New York.
9. Thornbury, W.D. (1960): **Principles of Geomorphology**, John Wiley & Sons, New York.
10. Wooldridge, S.H and Morgan, R.S. (1959): **The Physical Basis of Geography –An Outline of Geomorphology**, Longman Green & Co., London



**SEMESTER - I**  
**GENERIC ELECTIVE 1**  
**THEMATIC CARTOGRAPHY (PRACTICAL)**  
**PAPER NO: GGG 1.12**

*Contact Hours: 30*

*Credit: 2*

**UNIT I** Concept of map and types of maps.

**UNIT II** Types of scale; preparation of scale: simple, comparative and diagonal.

**UNIT III** Enlargement and Reduction of map by graphical method, combination of maps of different scales.

**UNIT IV** Viva voce and Practical Notebook.

***Recommended Books and References:***

1. Binch, T.W. (1968): **Maps: Topographical and Statistical**, Clarendon Press, Oxford.
2. Khan, Md. Z.A. (1998): **Text Book of Practical Geography**, Concept Publishing, New Delhi.
3. Lownsberg, J.F. and Aldrich, F.T. (1979): **Introduction to Geographical Methods and Techniques**, Charles Marlin, Columbus.
4. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi.
5. Mohammad, N. (2008): **Practical Work in Geography**, Sunflower Publishers, New Delhi.
6. Sarkar, A.K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata.
7. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
8. Singh, R.L. and Singh, Rana P.B. (1993): **Elements of Practical Geography**, Kalyani Publishers, New Delhi.

**SEMESTER – II**  
**CORE 3**  
**GEOMORPHOLOGY (THEORY)**  
**Paper No: GGC 2.11**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *To acquaint the students with the growth and development in geomorphology, its place in physical geography and theories of formation of earth.*

**UNIT I** Geomorphology (Nature and scope); relief features of the earth surface

**UNIT II** Constitution of the earth's interior - Internal structure of Earth (seismological evidence and recent views), weathering and mass wasting

**UNIT III** Earth movements- Mountain building process; Theories regarding origin of mountains- continental drift theory, Isostasy and plate- tectonics

**UNIT IV** Faults and Folds, Volcano (definition, classification, landforms produced), Earthquakes (definition, causes, landforms produced)

**UNIT V** Processes and resultant Land forms: Works of river, wind, glacial, under- ground water.

***Recommended Books and References:***

1. Bryant, H. Richard (2001): **Physical Geography Made Simple**, Rupa and Company, New Delhi.
2. Hugget, R.J. (2003): **Fundamentals of Geomorphology**, Routledge, London.
3. Monkhouse, F.J. (1979): **Physical Geography**, Methuen, London.
4. Singh, S. (2003): **Physical Geography**, Prayag Pustak Bhawan, Allahabad. (2007): **Physical Geography**, Lakshmi Narain Agarwal, Agra.
5. Sharma, Y.K. (2007): **Physical Geography**, Lakshmi Narain Agarwal, Agra.
6. Strahler, A.N. and Strahler, A.m. (1992): **Modern Physical Geography**, John Wiley and Sons, New York.
7. Thornbury, W.D. (1960): **Principles of Geomorphology**, John Willey & Sons, New York.
8. Wooldrige, S.H and Morgan, R.S. (1959): **The Physical Basis of Geography –An Outline of Geomorphology**, Longman Green & Co., London.

**SEMESTER – II**

**CORE 3**

**CARTOGRAPHIC TECHNIQUE I (PRACTICAL)**

**Paper No: GGC 2.12**

*Contact Hours: 30*

*Credit: 2*

**UNIT I** Interpretation of toposheet- a) Physiography b) Drainage c) Vegetation

**UNIT II** Representation by contour and their profile- Plateau, Cliff, Cirque, Ria coast, Fiord coast, River terrace

**UNIT III** Relief and Slope Analysis- Serial, Superimposed, Projected and Composite profiles

**UNIT IV** Viva voce and Practical Notebook.

***Recommended Books and References:***

1. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi.
2. Sarkar, A.K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata.
3. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
4. Singh, R.L. and Singh, Rana P.B. (1993): **Elements of Practical Geography**, Kalyani Publishers, New Delhi.

**SEMESTER – II**  
**CORE 4**  
**RESOURCE GEOGRAPHY (THEORY)**

**Paper No: GGC 2.21**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *To understand the concept of resources, prevalent issues related to environment, geographical pattern of resource utilization and the concept of sustainable development.*

**UNIT I** Concept Of Resources; Scope Of Resource Geography; Classification Of Resources.

**UNIT II** Human Resources: Policy, Population Pressure, Resource Utilization and Management.

**UNIT III** Natural resources: Distribution and management of Forest, Water and Soil resources

**UNIT IV** Energy and Mineral resources: Conventional (Coal and Petroleum – distribution and utilization), Non-conventional (Wind and Solar energy – potential and utilization).

**UNIT V** Principles of conservation; Conservation of natural resources; Sustainable resource development and management.

***Recommended Books and References:***

1. Bryson, J., Henry, N., Keeble, D. and Martin, R. (eds.) (1999): **The Economic Geography Reader: Producing and Consuming Global Capitalism**, John Wiley and Sons, Inc, New York.
2. Coe, N. (2007): **Economic Geography: A Contemporary Introduction**, Blackwell Publishers, Inc., Massachusetts.
3. Guha, J.S. and Chattorji, P.R. (2002): **A New Approach to Economic Geography: A Study of Resources**, The World Press Private Limited, Kolkata.
4. Hanink, D.M. (1997): **Principles and Applications of Economic Geography: Economy, Policy, Environment**, John Wiley and Sons, Inc, New York.
5. Leong, G. C. and Morgan, G.C. (1982): **Human and Economic Geography**, Oxford University Press, Singapore.
6. Mackinnon, D. and Cumbers, A.(2007): **An Introduction to Economic Geography: Globalization, Uneven Development and Place**, Prentice Hall, New Jersey.
7. Parman, S.S. (2002): **Geography, Economics and Economic Geography**, ASD Publ., Pune.
8. Simmons, I.G. (1980): **The Ecology of Natural Resources**, Edward Arnold, London.
9. Simmons, I.G. (1991): **Earth, Air and Water: Resources and Environment in the 20<sup>th</sup> Century**, Edward Arnold, London.
10. Roy, P.K. (2005): **Economic Geography: A Study of Resources**, New Central Book Agency (P) Ltd, Kolkata

**SEMESTER – II**  
**CORE 4**  
**MAP PROJECTION 1 (PRACTICAL)**

**Paper No: GGC 2.22**

*Contact Hours: 30*

*Credit: 2*

**UNIT I** Definition, classification, and uses of map projection

**UNIT II** Map projection- Cylindrical (simple and equal area) with properties and uses

**UNIT III** Projections (Molleweid's and sinusoidal)

**UNIT IV** Viva voce and Practical note book

***Recommended Books and References:***

1. Kanetker, T.P. and Kulkarni, S.V. (1967): **Surveying and Levelling**, Vol I and II V.G. Prakashan, Poona
2. Monkhouse, F.J. and Wilkinson, F.J. (1985): **Maps and Diagrams**, Methuen, London.
3. Pugh, J.C. (1975): **Surveying for Field Scientists**, Methuen and Company Ltd., London.
4. Raiz, E. (1962): **Principles of Cartography**, McGraw Hill, New York.
5. Robinson, Arthur et al., (1978): **Elements of Cartography**, John Wiley and Sons, New York.
6. Sarkar, A.K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata.

**SEMESTER - II**  
**GENERIC ELECTIVE 2**  
**HUMAN GEOGRAPHY (THEORY)**  
**PAPER NO: GGG 2.11**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *To acquaint the students with the nature of man- environment relationship and to make them understand the spatial distribution of different racial groups.*

**UNIT I** Human Geography-meaning, nature and scope; branches of Human geography.

**UNIT II** Man-environment dynamic relationships; determinism and possibilism.

**UNIT III** Physical, economic and social factors influencing spatial distribution of world population; growth distribution and density of population.

**UNIT IV** Concept of over population, under population and optimum population; Migration: types and consequences.

**UNIT V** Settlement: Geographical factors influencing human settlement; rural and urban settlement (Types and patterns)

***Recommended Books and References:***

1. Beyman, E.F. (1995): **Human Geography** – Culture, Connections and Landscape, Prentice Hall, New Jersey.
2. Hazra, Jayati et al., (1977): **Dimensions of Human Geography**, Rawat Publications, Jaipur.
3. Hopkins, I. (1982): **An Introduction to Human Geography**, Widenfield and Nicolson, London.
4. Hussain, M. (1994): **Human Geography**, Rawat Publications, Jaipur.
5. James, R. (2010): **The Cultural Landscape – An Introduction to Human Geography**, Prentice Hall of India, New Delhi.
6. Leong Goh Cheng (2003): **Physical and Human Geography**, Oxford University Press, New Delhi.
7. Norton, W. (1995): **Human Geography**, Oxford University Press, New York.
8. Singh, L.R. (2005): **Fundamentals of Human Geography**, Sharda Pustak Bhawan, Allahabad.
9. Stoddard, R.H., Wishart, D.J. and and Blouet, B.W.: **Human Geography**, Prentice-Hall, Englewood Cliffs, New Jersey.

**SEMESTER - II**  
**GENERIC ELECTIVE 2**  
**GENERAL CARTOGRAPHY (PRACTICAL)**  
**PAPER NO: GGG 2.12**

*Contact Hours: 30*

*Credit: 2*

- UNIT I**      The nature and scope of cartography, developments and trend, traditional versus modern cartography
- UNIT II**      Diagrammatic population data presentation by Line, bar, circle
- UNIT III**      Representation of population data: Distribution, density and growth by dots and proportionate circles; Age-sex pyramid.
- UNIT IV**      Viva voce and Practical Note book.

***Recommended Books and References:***

1. Kanetker, T.P. and Kulkarni, S.V. (1967): **Surveying and Levelling**, (Vol I and II), V.G. Prakashan, Poona
2. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi.
3. Sarkar, A. K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata
4. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
5. Steers, J. A. (1965): **An Introduction to the Study of Map Projection**, University of London Press, London
6. Talukdar, S. (2008): **Introduction to Map Projection**, EBH Publishers, Guwahati.

**SEMESTER – III**

**CORE 5**

**CLIMATOLOGY (Theory)**

**Paper No: GGC 3.11**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *This paper encompasses very important branch of geography i.e. Climatology. It is to enable the students to understand the importance of various atmospheric factors in controlling the climate.*

**UNIT I** Definition and significance of climatology; elements of weather and climate; Composition and structure of atmosphere.

**UNIT II** Insolation and heat budget, distribution of Temperature - Vertical and Horizontal.

**UNIT III** Pressure Belts, Wind system - planetary, periodic and local winds, Jet streams.

**UNIT IV** Air masses ; fronts; Cyclones and Anti-cyclones.

**UNIT V** Humidity and Precipitation, Major climatic types (Koppen's and Thornthwaite's classification of world climate); Global Climate change with special reference to role and response of man in climatic changes.

***Recommended Books and References:***

1. Chorley, R.J. (2001): Atmosphere, Weather and Climate. Methuen, London.
2. Crithfield, H.J. (2002): General Climatology. Prentice-Hall of India, New Delhi.
3. Finch, J.C. and Trewartha, G.T.: Elements of Weather and Climate. Prentice-Hall, London.
4. Lal, D.S. (1986): Climatology. Chaitanya Publications, Allahabad.
5. Oliver, J.E. and Hidore, J.J. (2003): Climatology: An Atmospheric Science, Pearson Education Private Ltd, Delhi.
6. Singh, S. (2005): Climatology. Prayag Pustak Bhawan, Allahabad.



**SEMESTER – III**

**CORE 5**

**GRAPHICAL REPRESENTATION OF WEATHER DATA (PRACTICAL)**

**Paper No: GGC 3.12**

*Contact Hours: 30*

*Credit: 2*

- UNIT I** Handling and use of weather instruments (Max-Min Thermometer, Hygrometer, Barometer, Rain Gauge, and Anemometer).
- UNIT II** Interpretation of weather maps published by Indian Meteorological Department.
- UNIT III** Representation of weather data- Temperature, rainfall and humidity data by line and bar graph. Construction and significance of Hythergraph and Climograph.
- UNIT IV** Viva voce and Practical Note book.

***Recommended Books and References:***

1. Monkhouse, F.J. and Wilkinson, F.J. (1985): **Maps and Diagrams**, Methuen, London.
2. Raiz, E. (1962): **Principles of Cartography**, McGraw Hill, New York.
3. Sarkar, A.K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata.
4. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
5. Singh, R.L. and Singh, Rana P.B. (1993): **Elements of Practical Geography**, Kalyani Publishers, New Delhi.

**SEMESTER – III**  
**CORE 6**  
**ECONOMIC GEOGRAPHY (THEORY)**  
**Paper No: GGC 3.21**

*Contact Hours: 60*

*Credit: 4*

**Objectives:** *To acquaint the students with the dynamic aspect of economic geography, economic activities with various factors responsible for economic development.*

**UNIT I** Meaning, Scope and Approaches to the study of economic geography; Concept and classification of economic activity

**UNIT II** Factors affecting location of Economic activity – Agriculture (Von Thunen Theory) and Industry (Weber's theory)

**UNIT III** Primary Activities: Subsistence and Commercial Agriculture, forestry, fishing and mining.

**UNIT IV** Secondary activities: Factors influencing industrial location, distribution and production of iron and steel (USA and China) and Cotton Textiles (U.K. and India)

**UNIT V** Trade- International trade, bilateral and multilateral Trade, Service Industries- Financial services, Tourism and Knowledge services-ITES & IT services.

***Recommended Books and References:***

1. Boesch, H. (1964): **Geography of World Economy**, D. Van Nostrand Co., New York.
2. Bryson, J., Henry, N., Keeble, D. And Martin, R. (eds) (1999): **The Economic Geography Reader: Producing and Consuming Global Capitalism**, John Wiley and sons, Inc, New York.
3. Coe, N. (2007): **Economic Geography: A Contemporary Introduction**, Blackwell Publishers, Inc., Massachusetts.
4. Guha, J.S. and Chattoraj, P.R. (2002): **A new Approach to Economic Geography: A Study of Resources**, The World Press Private Limited, Kolkata.
5. Hannk, D.M. (1997): **Principles and Applications of Economic Geography: Economy, Policy, Environment**, John Wiley and Sons, Inc, New York.
6. Leong G.C. and Morgan, G. C.(1982): **Human and Economic Geography**, Oxford University Press, Singapore.
7. Miller, E. (1962): **Geography of Manufacturing Industries**, Prentice Hall, New York.
8. Pounds, N.J.G. (1970): **Introduction to Economic Geography**, John Murray, London.
9. Smith, D.M. (1971): **Industrial Location – An Economic Geographical Approach**, John Willey, New York.
10. Roy, P. K. (2005): **Economic Geography, A Study of Resources**, New Central Book Agency (P) Ltd, Kolkata.

**SEMESTER – III**

**CORE 6**

**SOCIO - ECONOMIC SURVEY (PRACTICAL)**

**Paper No: GGC 3.22**

*Contact Hours: 30*

*Credit: 2*

**Field work and Research Methodology (Socio-economic survey)**

1. Field Work In Geographical Studies – Role, Value, Data and Ethics of Field-Work
2. Defining the Field and Identifying the Case Study – Rural / Urban / Physical / Human/ Environmental.
3. Field Techniques – Merits, Demerits and Selection of the Appropriate Technique; Observation (Participant / Non Participant), Questionnaires (Open/ Closed / Structured / Non-Structured); Interview with Special Focus on Focused Group Discussions; Space Survey (Transects and Quadrants, Constructing a Sketch)

-Each student will prepare an individual/ group report based on primary level and secondary data collected during field work

- The duration of the field work should not exceed 10 days

-Report should be about 15-20 pages excluding figures, tables, photographs, maps, references, and appendices

**SEMESTER – III**

**CORE 7**

**SETTLEMENT GEOGRAPHY (THEORY)**

**Paper No: GGC 3.31**

*Contact Hours: 60*

*Credit: 4*

- UNIT I** Definition, nature, and scope of settlement geography; approaches to study of Settlement geography
- UNIT II** Development of settlement geography; origin of settlements, factors affecting growth of settlement
- UNIT III** Rural Settlement: site, location, types and patterns, Environmental issues in rural settlements; Rural service centre
- UNIT IV** Urban settlement: origin and functional classification of urban centres; features and trend of urbanization.
- UNIT V** Social areas of the city; urban Sprawl; conurbation and metropolitan regions; Central Place theory (Christaller's).

***Recommended Books and References:***

1. Hazra, Jayati et al., (1977): **Dimensions of Human Geography**, Rawat Publications, Jaipur.
2. Hopkins, I. (1982): **An Introduction to Human Geography**, Widenfield and Nicolson, London.
3. Hussain, M. (1994): **Human Geography**, Rawat Publications, Jaipur.
4. James, R. (2010): **The Cultural Landscape – An Introduction to Human Geography**, Prentice Hall of India, New Delhi.
5. Leong Goh Cheng (2003): **Physical and Human Geography**, Oxford University Press, New Delhi.
6. Norton, W. (1995): **Human Geography**, Oxford University Press, New York.
7. Singh, L.R. (2005): **Fundamentals of Human Geography**, Sharda Pustak Bhawan, Allahabad.
8. Stoddard, R.H., Wishart, D.J. and Blouet, B.W.: **Human Geography**, Prentice-Hall, Englewood Cliffs, New Jersey.
9. Knox P. L. and Pinch S., 2006: **Urban Social Geography: An Introduction**, Prentice Hall.
10. Ramachandran, R., 1992 : **The Study of Urbanisation**, Oxford University Press, Delhi.

**SEMESTER – III**  
**CORE 7**  
**SURVEY (PRACTICAL)**  
**Paper No: GGC 3.32**

*Contact Hours: 30*

*Credit: 2*

**UNIT I** Importance of surveying in geography, instruments – handling and care of survey instruments.

**UNIT II** Survey- Chain or Tape survey (to plot an area within the college premises).

**UNIT III** Contouring by theodolite or dumpy level

**UNIT IV** Viva voce and Practical note book.

***Recommended Books and References:***

1. Talukdar, S. (2008): **Introduction to Map Projection**, EBH Publishers, Guwahati
2. Sarkar, A. K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata
3. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
4. Steers, J. A. (1965): **An Introduction to the Study of Map Projection**, University of London Press, London
5. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi

**SEMESTER - III**  
**SKILL ENHANCEMENT COURSE 1**  
**REMOTE SENSING (PRACTICAL)**  
**Paper No: GGS 3.12 (a)**

**Contact Hours: 30**

**Credit: 2**

UNIT I	Remote Sensing: Types, Processes and elements
UNIT II	Photogrammetry; Aerial Photography: Principles, Types and Geometry
UNIT III	Aerial Imagery: Image Processing, Classification and Interpretation; Application of Remote Sensing
UNIT IV	Viva voce Practical Note Book

***Recommended Books and References:***

1. Bhatta, B. (2008) Remote Sensing and GIS, Oxford University Press, New Delhi.
2. Campbell J. B., 2007: *Introduction to Remote Sensing*, Guildford Press
3. Chauniyal, D. (2010) Sudur Samvedana Avam Bhaugolik Suchna Pranali, Sharda Pustak Bhawan, Allahabad.
4. Jensen, J. R. (2005) Introductory Digital Image Processing: A Remote Sensing Perspective, Pearson Prentice-Hall.
5. Joseph, G. 2005: *Fundamentals of Remote Sensing*, United Press India.
6. Lillesand T. M., Kiefer R. W. and Chipman J. W., 2004: *Remote Sensing and Image Interpretation*, Wiley. (Wiley Student Edition).
7. Li, Z., Chen, J. and Batsavias, E. (2008) Advances in Photogrammetry, Remote Sensing and Spatial Information Sciences CRC Press, Taylor and Francis, London
8. Mukherjee, S. (2004) Textbook of Environmental Remote Sensing, Macmillan, Delhi.
9. Nag P. and Kudra, M., 1998: *Digital Remote Sensing*, Concept, New Delhi.
10. Singh R. B. and Murai S., 1998: *Space-informatics for Sustainable Development*, Oxford and IBH Pub.

**SEMESTER - III**  
**SKILL ENHANCEMENT COURSE 1**  
**ADVANCED SPATIAL STATISTICAL TECHNIQUES (PRACTICAL)**

**Paper No: GGS 3.12 (b)**

**Contact Hours: 30**

**Credit: 2**

1. Statistics and Statistical Data: Spatial and non-spatial; Sampling: Sampling plans for spatial and non-spatial data, sampling distributions.
2. Correlation: Rank order correlation and product moment correlation.
3. Regression Analysis: linear regression, residuals from regression, and simple curvilinear regression.
4. Time Series Analysis: Time Series processes; Smoothing time series; Time series components.

*Note: Any Statistical Software Package (SPSS, MS Excel, R, etc.) may be used for practice.*

***Recommended Books and References:***

1. Bart James E and Gerald M. Barber, 1996: Elementary Statistics for Geographers, The Guilford Press, London.
2. Eldon, D., 1983: Statistics in Geography: A Practical Approach, Blackwell, London.
3. Cressie, N.A.C., 1991: Statistics for Spatial Analysis, Wiley, New York.
4. Gregory, S., 1978: Statistical Methods and the Geographer (4th Edition), Longman, London.
5. Haining, R.P., 1990: Spatial Data Analysis in the Social and Environmental Science, Cambridge University Press, Cambridge.
6. Mc Grew, Jr. and Cahrls, B. M., 1993: An Introduction to Statistical Problem Solving in Geography, W.C. Brocan Publishers, New Jersey.
7. Mathews, J.A., 1987: Quantitative and Statistical Approaches to Geography: A Practical Manual Pergamon, Oxford.
8. S.K., 1998: Statistics for Geoscientists: Techniques and Applications, Concept Publishing Company, New Delhi.
9. Wei, W.S., 1990: Time Series Analysis: Variate and Multivariate Methods, Addison Wesley Publishing.
10. Yeates, Mauris, 1974: An Introduction to Quantitative Analysis in Human Geography, Mc Grawhill, New York.

**SEMESTER - III**  
**GENERIC ELECTIVE 3**  
**GEOGRAPHY OF INDIA (THEORY)**  
**PAPER NO: GGG 3.11**

*Contact Hours: 60*

*Credit: 4*

**Objectives:** *Aims and presenting a comprehensive, integrated and empirically based profile of India so as to sensitize the students with development issues, policies and programmes designed to regional development.*

**UNIT I**      Physiographic features, Climate, soil

**UNIT II**      Population characteristics: population growth, distribution and density, sex ratio

**UNIT III**      Agriculture: agricultural development, modernisation of Indian agriculture (Green Revolution, yellow revolution), Agricultural Trade (Wheat, Rice).

**UNIT IV**      Transport: Roads and railways, air transport and water transport.

**UNIT V**      Industry: Industrial development and Indian economy, distribution of major industries (cotton textile, Iron Steel and cement industries).

***Recommended Books and References:***

1. Gautam, A. (2006): **Advanced Geography of India**, Sharda Pustak Bhawan, Allahabad.
2. Gopal Singh (1992): **A Geography of India**, Atma Ram & Sons, Lucknow.
3. Khullar, D.R. (2007): **A Comprehensive Geography**, Kalyani Publishers, New Delhi.
4. Kundee, A. (1992): **Urban Development Urban Research in India**, Khanna Pub.l, New Delhi.
5. Nag, P. and Gupta, S.S. (1992): **Geography of India**, Concept Publishing Company, New Delhi.
6. Premi, M.K. (2007): **Population of India**, NBT, New Delhi.
7. Singh, J. (2003): **India: A Comprehensive Systematic Geography**, Gyanodaya Prakashan, Gorakhpur.
8. Singh, R.L. (ed.) (1971): **India: A Regional Geography**, National Geographical Society of India, Varanasi.
9. Srinivasan, K. and Vlassoff, M. (2001): **Population and Development Nexus in India, Challenges for the new Millenium**, Tata Mc Graw Hill, New Delhi.
10. Tiwari, R.C. (2007): **Geography of India**, Prayag Pustak Bhawan, Allahabad.



**SEMESTER - III**  
**GENERIC ELECTIVE 3**  
**INTRODUCTION TO STATISTICAL METHOD (PRACTICAL)**  
**PAPER NO: GGG 3.12**

*Contact Hours: 30*

*Credit: 2*

- UNIT I**      Sampling- Types and their Uses
- UNIT II**      Statistical methods: Measures of central tendency (Mean, Median and Mode),  
Measures of dispersion (Mean deviation and Standard deviation).
- UNIT III**      Chorochromatic mapping of population data (Density, Sex ratio, Literacy rate)
- UNIT IV**      Practical notebook and viva voce.

***Recommended Books and References:***

1. Talukdar, S. (2008): **Introduction to Map Projection**, EBH Publishers, Guwahati
2. Sarkar, A. K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata
3. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
4. Steers, J. A. (1965): **An Introduction to the Study of Map Projection**, University of London Press, London
5. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi

**SEMESTER – IV**

**CORE 8**

**HYDROLOGY AND OCEANOGRAPHY (THEORY)**

**Paper No: GGC 4.11**

*Contact Hours: 60*

*Credit: 4*

**Objectives:** *This paper on physical geography is structured into components of hydrology and oceanography as these are closely interrelated.*

**UNIT I** Nature of Hydrology; Precipitation–intensity and duration, evaporation, infiltration, surface runoff.

**UNIT II** Drainage basin characteristics; Drainage basin Hydrological Cycle; Human impact on hydrological system.

**UNIT III** Groundwater: Occurrence, Man and Hydrological Processes, Depletion of Ground water-causes and consequences; water management.

**UNIT IV** Introduction of Oceanography; Surface configuration of the ocean floor, movement of ocean water, temperature and salinity of ocean water.

**UNIT V** Coral reefs: Darwin’s theory of Subsidence; Murray’s theory of non-subsidence; Marine deposits.

***Recommended Books and References:***

1. Chorley, R.J. (2001): **Atmosphere, Weather and Climate**, Methuen, London.
2. Crithfield, H.J. (2002): **General Climatology**, Prentice-Hall of India, New Delhi.
3. Finch, J.C. and Trewartha, G.T.: **Elements of Weather and Climate**, Prentice-Hall, London.
4. Lal, D.S. (1986): **Climatology**, Chaitanya Publications, Allahabad.
5. Melik, A. (2008): **Causes of Climate Change**, DVS Publ., New Delhi.
6. Negi, B.S. (2002): **Climatology and Oceanography**, Kedar Nath Ram Nath, Meerut.
7. Oliver, J.E. and Hidore, J.J. (2003): **Climatology: An Atmospheric Science**, Pearson Education Private Ltd, Delhi.
8. Singh, S. (2005): **Climatology**, Prayag Pustak Bhawan, Allahabad

**SEMESTER – IV**

**CORE 8**

**MAP PROJECTION II (PRACTICAL)**

**Paper No: GGC 4.12**

*Contact Hours: 30*

*Credit: 2*

**UNIT I** Map projection: Polar Zenithal (Stereographic, Orthographic) with an outline maps drawn.

**UNIT II** Cylindrical map projection (Gall's and Mercator's) with outline maps drawn.

**UNIT III** Hypsographic and Bathymetric curve

**UNIT IV** Viva voce and Practical note book.

***Recommended Books and References:***

1. Talukdar, S. (2008): **Introduction to Map Projection**, EBH Publishers, Guwahati
2. Sarkar, A. K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata
3. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
4. Steers, J. A. (1965): **An Introduction to the Study of Map Projection**, University of London Press, London
5. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi

## SEMESTER – IV

### CORE 9

#### ENVIRONMENTAL GEOGRAPHY AND DISASTER MANAGEMENT (THEORY)

Paper No: GGC 4.21

Contact Hours: 60

Credit: 4

**Objective:** To identify and understand the emerging environmental issues at global and regional level, to create awareness and to acquaint the students with the knowledge of adaptation and management of the same.

- UNIT I** Definition, concept and scope of Environmental Geography; Approach to Environmental management.
- UNIT II** Emerging environmental problems: population growth, agriculture, deforestation, science and technology.
- UNIT III** Disaster – Meaning, Concept and Types (flood, forest fires, drought, landslides).
- UNIT IV** Earthquake zoning in India- Himalayan region and NE India; Tropical Cyclones (Typhoons, Hurricanes and Tornadoes)
- UNIT V** Response to Disasters – Community, Non-Government Organisations, National and International.

#### **Recommended Books and References:**

1. Cantledge, B.(ed). (1992): **Monitoring the Environment**, Oxford University Press. Oxford.
2. Frank W.L., (1986): **The Violent Earth**, Croom Helm, London.
3. Kapur, A., (2010): **Vulnerable India: A Geographical Study of Disasters**, Safe Publication, New Delhi.
4. Newson, M.(1992): **Land, Water and Development**, Routledge, London.
5. Saxena, H.M. (2003): **Environmental Geography**, Rawat Publications, Jaipur and New Delhi.
6. Singh, R.B. (ed.) (2006): **Natural Hazards and Disaster Management Vulnerability and Mitigation**, Rawat Publications, New Delhi.
7. Singh, S.(1991): **Environmental Geography**. Prayag Pustak Bhawan, Allahabad.
8. Strahler, A.N. & A.H. Strahler, 1976: **Geography and Man's Environment**, John Willey, New York.
9. UN and WMO, (2002): **Living with Risk: A Global Review of Disaster Reduction Initiatives, International Strategy for Disaster Reduction (ISDR)**, WMO and UN Publication.

**SEMESTER - IV**

**CORE 9**

**ENVIRONMENT AND DISASTER BASED PROJECT WORK (PRACTICAL)**

**PAPER NO: GGC 4.22**

*Contact Hours: 30*

*Credit: 2*

*Note: The Project report based on any one case study among following environmental issues or disasters and one disaster preparedness plan of respective college or locality.*

1. Deforestation
2. Waste Management
3. Flood
4. Drought
5. Cyclone and Hailstorms
6. Earthquake
7. Landslide
8. Human induced disaster: Fire hazards, chemical, industrial accidents

***Recommended Books and References:***

1. Government of India (1997) Vulnerability atlas of India, New Delhi, Building Materials and Technology Promotion Council, Ministry of Urban Development, Govt. of India.
2. Kapur, A. (2010) Vulnerable India: A Geographical Study of Disasters. Sage Publication, New Delhi.
3. Modh, S. (2010) Managing Natural Disasters: Hydrological, Marine and Geological Disasters. Macmillan, Delhi.
4. Singh, R. B. (2005) Risk Assessment and Vulnerability analysis, IGNOU, New Delhi, Chapter 1,2 &3.
5. Singh, R.B. (ed) (2006) Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, New Delhi.
6. Sinha, A. (2001) Disaster Management: Lessons drawn and Strategies For Future, New United Press, New Delhi.
7. Stoltman, J. P. et al (2004) International Perspectives on Natural Disasters Kluwer Academic Publications, Dordrecht.
8. Singh, Jagbir (2007) "Disaster Management future Challenges and Opportunities". I.K. International Pvt. Ltd., New Delhi ([www.ikbooks.com](http://www.ikbooks.com)).

**SEMESTER – IV**

**CORE 10**

**GEOGRAPHY OF INDIA (THEORY)**

**Paper No: GGC 4.31**

*Contact Hours: 60*

*Credit: 4*

**Objectives:** *Aims and presenting a comprehensive, integrated and empirically based profile of India so as to sensitize the students with development issues, policies and programs designed to regional development.*

**UNIT I** Locational significance; unity and diversity.; Physical environment-physiographic division (general characteristics) climate, soil and natural vegetation.

**UNIT II** Population characteristics: population growth, distribution and density

**UNIT III** Agriculture: Characteristics of Indian agriculture, Major Agricultural Crops (Wheat, Rice and Cotton).

**UNIT IV** Transport: Roads and railways, air transport and water transport.

**UNIT V** Industry: distribution of major industries (iron and steel, petrochemicals and cement industries), recent industrial policies.

***Recommended Books and References:***

1. Gautam, A. (2006): **Advanced Geography of India**, Sharda Pustak Bhawan, Allahabad.
2. Gopal Singh (1992): **A Geography of India**, Atma Ram & Sons, Lucknow.
3. Khullar, D.R. (2007): **A Comprehensive Geography**, Kalyani Publishers, New Delhi.
4. Kundee, A. (1992): **Urban Development Urban Research in India**, Khanna Pub.l, New Delhi.
5. Nag, P. and Gupta, S.S. (1992): **Geography of India**, Concept Publishing Company, New Delhi.
6. Premi, M.K. (2007): **Population of India**, NBT, New Delhi.
7. Singh, J. (2003): **India: A Comprehensive Systematic Geography**, Gyanodaya Prakashan, Gorakhpur.
8. Singh, R.L. (ed.) (1971): **India: A Regional Geography**, National Geographical Society of India, Varanasi.
9. Srinivasan, K. and Vlassoff, M. (2001): **Population and Development Nexus in India, Challenges for the new Millenium**, Tata Mc Graw Hill, New Delhi.
10. Tiwari, R.C. (2007): **Geography of India**, Prayag Pustak Bhawan, Allahabad

**SEMESTER – IV**  
**CORE 10**  
**CARTOGRAPHIC TECHNIQUE II (PRACTICAL)**

**Paper No: GGC 4.32**

*Contact Hours: 30*

*Credit: 2*

**UNIT I** Thematic mapping of India showing population, climate and resources.

**UNIT II** Projection: Conical projection with one and two standard parallel

**UNIT III** Prismatic Compass survey (closed and open traverse).

**UNIT IV** Practical notebook and viva voce.

***Recommended Books and References:***

1. Talukdar, S. (2008): **Introduction to Map Projection**, EBH Publishers, Guwahati
2. Sarkar, A. K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata
3. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
4. Steers, J. A. (1965): **An Introduction to the Study of Map Projection**, University of London Press, London
5. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi

**SEMESTER - IV**  
**SKILL ENHANCEMENT COURSE 2**  
**GEOGRAPHICAL INFORMATION SYSTEM (PRACTICAL)**  
**Paper No: GGS 4.12 (a)**

**Contact Hours: 30**

**Credit: 2**

1. Geographical Information System (GIS): Definition, development and GIS soft-wares.
2. GIS; Components, Data Structures, Types and Application
3. Global Positioning System (GPS) – Principles and Uses.
4. Georeferencing, Clip and Mosaic, Digitization tools and Map Digitization.

***Recommended Books and References:***

1. Bhatta, B. (2010) Analysis of Urban Growth and Sprawl from Remote Sensing, Springer, Berlin Heidelberg.41
2. Burrough, P.A., and McDonnell, R.A. (2000) Principles of Geographical Information System- Spatial Information System and Geo-statistics. Oxford University Press
4. Chauniyal, D.D. (2010) Sudur Samvedanevam Bhogolik Suchana Pranali, Sharda Pustak Bhawan, Allahabad
5. Heywoods, I., Cornelius, S and Carver, S. (2006) An Introduction to Geographical Information system. Prentice Hall.
6. Jha, M.M. and Singh, R.B. (2008) Land Use: Reflection on Spatial Informatics Agriculture and Development, New Delhi: Concept.
7. Nag, P. (2008) Introduction to GIS, Concept India, New Delhi.
8. Sarkar, A. (2015) Practical geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi
9. Singh, R.B. and Murai, S. (1998) Space Informatics for Sustainable Development, Oxford and IBH, New Delhi.



**SEMESTER - IV**  
**SKILL ENHANCEMENT COURSE 2**  
**RESEARCH METHODS**  
**Paper No: GGS 4.12 (b)**

**Contact Hours: 30**

**Credit: 2**

1. Geographic Enquiry: Definition and Ethics; Framing Research Questions, Objectives and Hypothesis; Literature Review; Preparing Sample Questionnaire
2. Data Collection: Type and Sources of Data; Methods of Collection; Input and Editing
3. Data Analysis: Qualitative Data Analysis; Quantitative Data Analysis; Data Representation Techniques
4. Structure of a Research Report: Preliminaries; Text; References, Bibliography and Citations; Abstract; Preparation of Research Report

***Recommended Books and References:***

1. Creswell J., 1994: Research Design: Qualitative and Quantitative Approaches Sage Publications.
2. Dikshit, R. D. 2003. The Art and Science of Geography: Integrated Readings. Prentice-Hall of India, New Delhi.
3. Evans M., 1988: "Participant Observation: The Researcher as Research Tool" in Qualitative Methods in Human Geography, eds. J. Eyles and D. Smith, Polity.
4. Misra, R.P. (2002) Research Methodology, Concept Publications, New Delhi.
5. Mukherjee, Neela 1993. Participatory Rural Appraisal: Methodology and Application. Concept Pubs. Co., New Delhi.
6. Mukherjee, Neela 2002. Participatory Learning and Action: with 100 Field Methods. Concept Pubs. Co., New Delhi
7. Robinson A., 1998: "Thinking Straight and Writing That Way", in Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences, eds. by F. Pryczak and R. Bruce Pryczak, Publishing: Los Angeles.
8. Special Issue on "Doing Fieldwork" The Geographical Review 91:1-2 (2001).
9. Stoddard R. H., 1982: Field Techniques and Research Methods in Geography, Kendall/Hunt.
10. Wolcott, H. 1995. The Art of Fieldwork. Alta Mira Press, Walnut Creek, CA.
11. Yadav, H. (2013) Shodh Pravidhi Evam Matratamak Bhugol, Raja Publications, Delhi

**SEMESTER - IV**  
**GENERIC ELECTIVE 4**  
**REGIONAL GEOGRAPHY OF NORTHEAST INDIA AND NAGALAND (THEORY)**  
**PAPER NO: GGG 4.11**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *To understand the geographical settings of North-East India with special reference to Nagaland and analyze the regions potentiality for sustainable development.*

- UNIT I** Northeast India: Locational significance; Physical characteristics- Physiography, climate, soil and natural vegetation
- UNIT II** Population of NE India: Growth, Distribution and Density, Age-Sex composition, Rural-Urban composition
- UNIT III** Economic basis of NE India: Agriculture, Industries and Transport system.
- UNIT IV** Nagaland: Locational significance, physiography, Population growth and distribution
- UNIT V** Economic Attributes of Nagaland: Tourism and its potential, Problems and prospects of agriculture and allied activities, Biodiversity and its conservation.

***Recommended Books and References:***

1. Bhagabati, A.K.(ed): **Biodiversity of Assam**, Eastern Book House, Guwahati.
2. Bhattacharyya, N.N.(2005): **North East India: A systematic Geography**, Rajesh Pub. New Delhi.
3. Gopal Krishnan, R. : **Geography of North East India**
4. **Gopal Krishnan R. (1991): North-East India: Land, People and Economy, Vikash Publishing House, New Delhi.**
5. Sebu, Sonyhulo (2013): **Geography of Nagaland**, Spectrum Publications Guwahati, Delhi.
6. Singh, S. (1994): **Agricultural Development in India : A Regional Analysis**, Kaushal Publ., Shillong.
7. Taher, M. and Ahmed, P.(1988): **Geography of North East India**, Mani Manik Prakash, Guwahati.

**SEMESTER - IV**  
**GENERIC ELECTIVE 4**  
**PAPER PRESENTATION (PRACTICAL)**  
**PAPER NO: GGG 4.12**

*Contact Hours: 30*

*Credit: 2*

**NOTE:** Students will be assigned topics based on the theory paper for presentation. They would be assessed on the following:

- a) Report writing: 25
- b) Presentation : 10
- c) Viva-voce : 15

**SEMESTER – V**

**CORE 11**

**REGIONAL GEOGRAPHY OF NORTHEAST INDIA (THEORY)**

**Paper No: GGC 5.11**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *To understand the geographical settings of North-East India and analyze the regions potentiality for sustainable development.*

**UNIT I** Locational significance; Physiography; Climate and Drainage.

**UNIT II** Soil: types and distribution; natural vegetation - classification and distribution.

**UNIT III** Agriculture and agricultural products; problems of agriculture.

**UNIT IV** Mineral and power resources; Industry: development of agro-based, forest-based & mineral-based industries.

**UNIT V** Population-growth, distribution and density; transport: Road, railways and air ways.

***Recommended Books and References:***

1. Taher, M. and Ahmed, P.(Revised edition, 2014): **Geography of North East India**, Mani Manik Prakash, Guwahati
2. Bhattacharyya, N.N. (2005): **North East India: A systematic Geography**, Rajesh Pub. New Delhi.
3. Gopal Krishnan, R.: **Geography of North East India**
4. **Gopal Krishnan R. (1991): North-East India: Land, People and Economy**, Vikash Publishing House, New Delhi.
5. Sebu, Sonyhulo (2013): **Geography of Nagaland**, Spectrum Publications Guwahati, Delhi.
6. Singh, S. (1994): **Agricultural Development in India: A Regional Analysis**, Kaushal Publ., Shillong.

**SEMESTER – V**

**CORE 11**

**DATA BASED ON NORTH EAST INDIA (PRACTICAL)**

**Paper No: GGC 5.12**

*Contact Hours: 30*

*Credit: 2*

- UNIT I** Cartographic representation of economic data of NE India in spatial and temporal context: Histogram, Pie graph, Age-Sex Pyramid
- UNIT II** Use of cartographic symbols and their uses: Iso-chronic cartograms, traffic flow diagrams and choropleth mapping
- UNIT III** Survey: Plane Table (Radiation and Intersection)
- UNIT IV** Viva voce and Practical note book

***Recommended Books and References:***

1. Kanetker, T.P. and Kulkarni, S.V. (1967): **Surveying and Levelling**, Vol I and II V.G. Prakashan, Poona
2. Monkhouse, F.J. and Wilkinson, F.J. (1985): **Maps and Diagrams**, Methuen, London.
3. Pugh, J.C. (1975): **Surveying for Field Scientists**, Methuen and Company Ltd., London.
4. Raiz, E. (1962): **Principles of Cartography**, McGraw Hill, New York.
5. Robinson, Arthur et al., (1978): **Elements of Cartography**, John Wiley and Sons, New York.
6. Sarkar, A.K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata.

**SEMESTER – V**

**CORE 12**

**REGIONAL PLANNING AND DEVELOPMENT (THEORY)**

**Paper No: GGC 5.21**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *To acquaint the student with the basic concept of regional planning and development understand the paradigm shift of environmental issues and planning for sustainable development.*

**UNIT I** Geographical concept of regional planning, Application of regional concept in planning and development

**UNIT II** Regional Hierarchy (Micro, Meso and Macro region), types of regions and methods of delineation

**UNIT III** Integrated area planning, trends in regional development planning, regional disparities.

**UNIT IV** Concept of development, measurement of levels of regional development, Nature and scope of town/urban planning with special reference to India.

**UNIT V** Environmental issues in regional planning, planning for sustainable development

***Recommended Books and References:***

1. De Blij, H. J., Muller, P.O., Winkler Prine, A and Nijman, J. (2010): **The World Today: Concepts and Regions in Geography (5<sup>th</sup> Edition)**, John Wiley and Sons, U.S.A.
2. Alden J and R. Morgan (1974), **Regional Planning: A Comprehensive View**, Leonard Hill Books, Bath, U.K.
3. Dewar, D. et. al. (eds), (1986), **Regional Development and Settlement Policy**, Allen and Unwin, Boston
4. Friedmann, J. and William, A (1967), **Regional Development and Planning**, Rotterdam Univ. Press
5. Hilhorat, J.G.M., (1975): **Regional Planning**, Rotterdam Univ. Press.
6. Kuklinski, A. R. (ed) 1972: **Growth Poles and Growth Centres in Regional Planning**, Monton, The Hague
7. Misra, R. P., 1969: **Regional Planning, Concepts, Techniques, Policies**, University of Mysore.

**SEMESTER – V**  
**CORE 12**  
**FIELD WORK (PRACTICAL)**  
**Paper No: GGC 5.22**

*Contact Hours: 30*

*Credit: 2*

**FIELD WORK**

The students are to prepare a project related to the theory paper. Students are to conduct an independent research (study) of a small areal unit (in nearby area).

***Recommended Books and References:***

1. Jones, P.A. (1968): **Field Work in Geography**, Longman, Green and Company Ltd., London.
2. Kumar, R. (2011): **Research Metodology (Third Edition)**, SAGE, New Delhi.
3. Lousenbury, J.F. and Aldrich, F.T. (1986): **Introduction to geographic Field Methods and Techniques**, Charles E. Merrill Publ, Colombus.
4. Misra, H.N. and Singh, V.P. (2002): **Research Methodology in Geography**, Rawat, New Delhi.
5. Raina, R.M. (2011): **Research in Geography: Trends and Techniques**, Summit Enterprises, New Delhi.
6. Trivedi, R.N. and Shukla, D.P. (1996): **Research Methodology**, Radha Publ., New Delhi.

**SEMESTER – V**  
**DISCIPLINE SPECIFIC ELECTIVE 1**  
**POPULATION GEOGRAPHY (THEORY)**  
**PAPER NO: GGD 5.11(a)**

*Contact Hours: 60*

*Credit: 4*

- UNIT I** Definitions and scope of Population Geography; Historical development and approaches.
- UNIT II** World population distribution, density and growth, Population theories – Malthusian and Demographic Transition.
- UNIT III** Population dynamics: fertility and mortality; migration and factors influencing migration
- UNIT IV** Population as a resource: over population, under population, optimum population; Population pressure in the developed and developing world.
- UNIT V** Population characteristics: Age – sex composition; Rural – urban composition

***Recommended Books and References:***

1. Bhattacharya: Population Geography of India (1981).
2. Chandna, R.L: Introduction to Population Geography (1980).
3. Clarke: Population Geography and Developing Countries (1981).
4. Thompson W. S.: Population Problems.



**SEMESTER – V**  
**DISCIPLINE SPECIFIC ELECTIVE 1**  
**GEOGRAPHY OF HEALTH AND WELLBEING (THEORY)**  
**PAPER NO: GGD 5.11(b)**

*Contact Hours: 60*

*Credit: 4*

**UNIT I** Perspectives on Health: Definition; linkages with environment, development and health; driving forces in health and environmental trends - population dynamics, urbanization, poverty and inequality.

**UNIT II** Pressure on Environmental Quality and Health: Human activities and environmental pressure land use and agricultural development; industrialisation; **transport and energy**.

**UNIT III** Exposure and Health Risks: Air pollution; household wastes; water; housing; workplace.

**UNIT IV** Health and Disease Pattern in Environmental Context with special reference to India, Types of Diseases and their regional pattern (Communicable and Lifestyle related diseases).

**UNIT V** Climate Change and Human Health: Changes in climate system – heat and cold; Biological disease agents; food production and nutrition.

***Recommended Books and References:***

1. Akhtar Rais (Ed.), 1990: Environment and Health Themes in Medical Geography, Ashish Publishing House, New Delhi.
2. Avon Joan L. and Jonathan A Patzed.2001: Ecosystem Changes and Public Health, Baltimin, John Hopling Unit Press(ed).
3. Bradley, D.,1977: Water, Wastes and Health in Hot Climates, John Wiley Chichesten.
4. Christaler George and Hristopoles Dionissios, 1998: Spatio Temporal Environment Health Modelling, Boston Kluwer Academic Press.
5. Cliff, A.D. and Peter,H., 1988 : Atlas of Disease Distributions, Blackwell Publishers, Oxford.
6. Gatrell, A. and Loytonen, 1998 : GIS and Health, Taylor and Francis Ltd, London.
7. Hardham T. and Tannav M., (eds): Urban Health in Developing Countries; Progress, Projects, Earthgoan, London.
8. Murray C. and A. Lopez, 1996: The Global Burden of Disease, Harvard University Press.
9. Moeller Dade wed., 1993: Environmental Health, Cambridge, Harvard Univ. Press.
10. Phillips, D.and Verhasselt, Y., 1994: Health and Development, Routledge, London.
11. Tromp, S., 1980: Biometeorology: The Impact of Weather and Climate on Humans and their Environment, Heydon and Son.

**SEMESTER – V**  
**DISCIPLINE SPECIFIC ELECTIVE 1**  
**CARTOGRAPHIC TECHNIQUE I (PRACTICAL)**  
**PAPER NO: GGD 5.12**

*Contact Hours: 30*

*Credit: 2*

**Unit I** Representation of Statistical Quantitative data using: Isopleth, Choropleth and Traffic Flow

**Unit II** Representation of statistical Qualitative data using: Chorochromatic, Choro schematic

**Unit III** Representation of Population Data – Distribution and Density using: dot, proportionate circle and sphere methods

***Recommended Books and References:***

1. Binch, T.W. (1968): **Maps: Topographical and Statistical**, Clarendon Press, Oxford.
2. Khan, Md. Z.A. (1998): **Text Book of Practical Geography**, Concept Publishing, New Delhi.
3. Lownsberg, J.F. and Aldrich, F.T. (1979): **Introduction to Geographical Methods and Techniques**, Charles Marlin, Columbus.
4. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi.
5. Mohammad, N. (2008): **Practical Work in Geography**, Sunflower Publishers, New Delhi.
6. Sarkar, A.K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata.
7. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.

**SEMESTER – V**  
**DISCIPLINE SPECIFIC ELECTIVE 2**  
**SOCIAL GEOGRAPHY (THEORY)**  
**PAPER NO: GGD 5.21(a)**

*Contact Hours: 60*

*Credit: 4*

- UNIT I** Social Geography: Concept, Origin, Nature and Scope.
- UNIT II** Peopling Process of India: Technology and Occupational Change; Migration.
- UNIT III** Social Categories: Caste, Religion and Race their Spatial distribution.
- UNIT IV** Geographies of Welfare and Well-being: Concept and Components – Housing and Education.
- UNIT V** Social Geographies of Inclusion and Exclusion, Slums, Gated Communities, Communal Conflicts and Crime.

***Recommended Books and References:***

1. Ahmed A., 1999: *Social Geography*, Rawat Publications.
2. Casino V. J. D., Jr., 2009) *Social Geography: A Critical Introduction*, Wiley Blackwell.
3. Cater J. and Jones T., 2000: *Social Geography: An Introduction to Contemporary Issues*, Hodder Arnold.
4. Holt L., 2011: *Geographies of Children, Youth and Families: An International Perspective*, Taylor & Francis.
5. Panelli R., 2004: *Social Geographies: From Difference to Action*, Sage.
6. Rachel P., Burke M., Fuller D., Gough J., Macfarlane R. and Mowl G., 2001: *Introducing Social Geographies*, Oxford University Press.
7. Smith D. M., 1977: *Human geography: A Welfare Approach*, Edward Arnold, London.
8. Smith D. M., 1994: *Geography and Social Justice*, Blackwell, Oxford.
9. Smith S. J., Pain R., Marston S. A., Jones J. P., 2009: *The SAGE Handbook of Social Geographies*, Sage Publications.
10. Sopher, David (1980): *An Exploration of India*, Cornell University Press, Ithasa

**SEMESTER – V**  
**DISCIPLINE SPECIFIC ELECTIVE 2**  
**GEOGRAPHY OF TOURISM (THEORY)**  
**PAPER NO: GGD 5.21(b)**

*Contact Hours: 60*

*Credit: 4*

- UNIT I** Scope and Nature: Concepts and Issues, Tourism, Recreation and Leisure Inter-Relations; Geographical Parameters of Tourism by Robinson.
- UNIT II** Growth and development of tourism; Types of Tourism: Nature Tourism, Cultural Tourism, Medical Tourism, Pilgrimage
- UNIT III** Recent Trends of Tourism: International and Regional; Domestic (India); Eco-Tourism, Sustainable Tourism, Meetings Incentives Conventions and Exhibitions (MICE)
- UNIT IV** Impact of Tourism: Economy, Environment, Society
- UNIT V** Tourism in India: Tourism Infrastructure; Case Studies of Himalaya, Desert and Coastal Areas; National Tourism Policy

***Recommended Books and References:***

1. Dhar, P.N. (2006) International Tourism: Emerging Challenges and Future Prospects. Kanishka, New Delhi.
2. Hall, M. and Stephen, P. (2006) Geography of Tourism and Recreation – Environment, Place and Space, Routledge, London.
3. Kamra, K. K. and Chand, M. (2007) Basics of Tourism: Theory, Operation and Practise, Kanishka Publishers, Pune.
4. Page, S. J. (2011) Tourism Management: An Introduction, Butterworth-Heinemann-USA. Chapter 2.
5. Raj, R. and Nigel, D. (2007) Morpeth Religious Tourism and Pilgrimage Festivals Management: An International perspective by, CABI, Cambridge, USA, [www.cabi.org](http://www.cabi.org).
6. Tourism Recreation and Research Journal, Center for Tourism Research and Development, Lucknow
7. Singh Jagbir (2014) “Eco-Tourism” Published by - I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India ([www.ikbooks.com](http://www.ikbooks.com)).
8. Robinson, H. Geography of tourism (Aspect Geographies); Published by MacDonal and Evan

**SEMESTER – V**  
**DISCIPLINE SPECIFIC ELECTIVE 2**  
**PAPER PRESENTATION (PRACTICAL)**  
**PAPER NO: GGD 5.22**

*Contact Hours: 30*

*Credit: 2*

***Note:** Students will be assigned topics based on the theory paper for presentation.*

Marks will be allotted as follows:

- a) Report Writing – 20
- b) Oral Presentation – 10
- c) Viva Voce – 15
- d) Attendance – 5

**SEMESTER – VI**

**CORE 13**

**ADVANCED GEOMORPHOLOGY (THEORY)**

**Paper No: GGC 6.11**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *To acquaint the students with the growth and development in geomorphology, its place in physical geography and theories of formation of earth.*

**UNIT I** Development of geomorphology: Geomorphological school in USA, Europe and India

**UNIT II** Fundamental concepts in geomorphology: Principal of uniformitarianism – James Hutton, Geologic structure and Geomorphic process - W. D. Thornbury.

**UNIT III** Drainage system and pattern: types and classification

**UNIT IV** Concept of erosion: Normal Cycle of erosion – W. M. Davis; Dynamic Equilibrium theory by J. T. Hack, Geosynclinal theory of Kober

**UNIT V** Application of geomorphology to settlements, transport, land use, mining, and environmental hazards management.

***Recommended Books and References:***

1. Ahmed, E. (2004): **Geomorphology (reprint)**, Kalyani Publ., Ludhiana.
2. Bloom, A.L. (1992): **Geomorphology – A Systematic Analysis**, Prentice-Hall India, New Delhi.
3. Dayal, P. (1996): **A Text Book in Geomorphology**, shukla Book Depot, Patna.
4. Kale, V. And Gupta, A. (2001): **Elements of Geomorphology**, Oxford University Press, Delhi.
5. Kale, S. Vishwas and Gupta, Avijit (1996): **Introduction to Geomorphology**, Orient Longman, Calcutta.
6. Stoddard, D. R. (ed) (1996): **Process and Form in Geomorphology**, Routledge, London.
7. Thornbury, W. D. (1990): **Principles of Geomorphology**, Wiley Eastern Edition, New York.
8. Singh, S. (2004): **Geomorphology**, Prayag Pustak Bhawan, Allahabad.
9. Skinner, B. J. And Potter, S.C. (1996): **The Dynamic Earth**, John Wiley and sons, New York.
10. Sparks, B.W. (1960): **Geomorphology**, Longman, London.

**SEMESTER – VI**

**CORE 13**

**CARTOGRAPHIC TECHNIQUE III (PRACTICAL)**

**Paper No: GGC 6.12**

*Contact Hours: 30*

*Credit: 2*

**UNIT I** Average slope determination (Wentworth's method), Drainage frequency and Drainage density

**UNIT II** Interpretation of toposheet: settlement, transport and Land use

**UNIT III** Height determination using theodolite (Accessible and inaccessible object)

**UNIT IV** Viva voce and Practical note book.

***Recommended Books and References:***

1. Talukdar, S. (2008): **Introduction to Map Projection**, EBH Publishers, Guwahati
2. Sarkar, A. K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata
3. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.
4. Steers, J. A. (1965): **An Introduction to the Study of Map Projection**, University of London Press, London
5. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi.

**SEMESTER – VI**

**CORE 14**

**GEOGRAPHY OF NAGALAND (THEORY)**

**Paper No: GGC 6.21**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *To understand the geographical settings of Nagaland and analyze the regions potentiality for sustainable development.*

**UNIT I** Locational significance, Physiography, geology climate, drainage system and natural vegetation

**UNIT II** Demographic characteristics: Population growth, distribution, density, age-sex Composition

**UNIT III** Agriculture – Prospects and problems, Industries: small scale, cottage industries and tourism

**UNIT IV** Resources: types, distribution, utilization and management - forests, mineral and water

**UNIT V** Transport: Transport-modes and their contribution to the economy

***Recommended Books and References:***

1. Gopal Krishnan, R.: Geography of North East India
2. Gopal Krishnan R. (1991): North-East India: Land, People and Economy, Vikash Publishing House, New Delhi.
3. Dr. Soyhunlo Sebu: Geography of Nagaland, Spectrum Publications, Guwahati, Assam. India.



**SEMESTER – VI**

**CORE 14**

**FIELD WORK: FIELD STUDY AND REPORT WRITING BASED ON NAGALAND  
(PRACTICAL)**

**Paper No: GGC 6.22**

*Contact Hours: 30*

*Credit: 2*

**Objectives:** *Geography being a field oriented subject it has been designed to let the students acquire firsthand knowledge of the surroundings on various aspects.*

**Field Study in local environment:**

Preparation of field report through fieldwork on any one of the following areas:

- A locality of the city/town
- A village near the city/ town

**Field Trip:** *to any nearby region for comparative study with the study area.*

The paper will be assessed as follows:

- a) **Field Study** : 20
- b) **Report Writing** : 20
- c) **Viva Voce** : 10

**SEMESTER – VI**  
**DISCIPLINE SPECIFIC ELECTIVE 3**  
**AGRICULTURAL GEOGRAPHY (THEORY)**  
**PAPER NO: GGD 6.11(a)**

*Contact Hours: 60*

*Credit: 4*

**Objective:** *The objective of this paper is to familiarize the students with importance of Agriculture Management keeping an emphasis on agriculture in Nagaland*

**UNIT I** Agricultural geography: nature, scope, significance; Land use classification.

**UNIT II** Determinants of Agriculture: Physical, Economic, Social and Culture.

**UNIT III** Agricultural systems of the world: Whittlesey's classification and Earl B Shaw's classification.

**UNIT IV** Indian agricultural regions: Agro-Climatic, Agro-ecological and crop combination Regions.

**UNIT V** Agricultural revolutions in India: Green, White, Blue, Pink

***Recommended Books and References:***

1. Anderson, E. (1970): **Geography of Agriculture**, W.M. C. Brown Co, Iowa
2. Bayliss Smith, T. P. (1987): **The Ecology of Agricultural Systems**, Cambridge University Press, London.
3. Gregor, H.P. (1990): **Geography of Agriculture**, Prentice – Hall, New York.
4. Grigg, D.B.(1974): **The Agricultural System of the World**, Cambridge University Press, London.
5. Shafi, M (2006): **Agricultural Geography**, Pearson Education, New Delhi.
6. Singh, S (1994): **Agricultural Development in India: A Regional Analysis**, Kaushal Publications, Shillong.
7. Singh, J. et al., (1984): **Agricultural Geography**, Tata Mc Graw hill, New Delhi.

**SEMESTER – VI**  
**DISCIPLINE SPECIFIC ELECTIVE 3**  
**URBAN GEOGRAPHY (THEORY)**  
**PAPER NO: GGD 6.11(b)**

*Contact Hours: 60*

*Credit: 4*

- UNIT I** Urban geography: Introduction, nature and scope
- UNIT II** Patterns of Urbanisation in developed and developing countries
- UNIT III** Functional classification of cities: Quantitative and Qualitative Methods
- UNIT IV** Urban Issues: problems of housing, slums, civic amenities (water and transport)
- UNIT V** Case studies of Delhi, Mumbai, Kolkata, Chennai and Chandigarh with reference to Land use and Urban Issues

***Recommended Books and References:***

1. Fyfe N. R. and Kenny J. T., 2005: *The Urban Geography Reader*, Routledge.
2. Graham S. and Marvin S., 2001: *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*, Routledge.
3. Hall T., 2006: *Urban Geography*, Taylor and Francis.
4. Kaplan D. H., Wheeler J. O. and Holloway S. R., 2008: *Urban Geography*, John Wiley.
5. Knox P. L. and McCarthy L., 2005: *Urbanization: An Introduction to Urban Geography*, Pearson Prentice Hall New York.
6. Knox P. L. and Pinch S., 2006: *Urban Social Geography: An Introduction*, Prentice-Hall.
7. Pacione M., 2009: *Urban Geography: A Global Perspective*, Taylor and Francis.
8. Sassen S., 2001: *The Global City: New York, London and Tokyo*, Princeton University Press.
9. Ramachandran R (1989): *Urbanisation and Urban Systems of India*, Oxford University Press, New Delhi
10. Ramachandran, R., 1992: *The Study of Urbanisation*, Oxford University Press, Delhi
11. Singh, R.B. (Eds.) (2001) *Urban Sustainability in the Context of Global Change*, Science Pub., Inc., Enfield (NH), USA and Oxford & IBH Pub., New Delhi.
12. Singh, R.B. (Ed.) (2015) *Urban development, challenges, risks and resilience in Asian megacities*. *Advances in Geographical and Environmental Studies*, Springer

**SEMESTER – VI**  
**DISCIPLINE SPECIFIC ELECTIVE 3**  
**GRAPHICAL REPRESENTATION OF DATA (PRACTICAL)**  
**PAPER NO: GGD 6.12**

*Contact Hours: 30*

*Credit: 2*

- UNIT I** Graphical representation using block-pile diagram.
- UNIT II** Representation of data: Cumulative graph, Ergograph.
- UNIT III** Road Profile using Dumpy Level
- UNIT IV** Viva voce and Practical Note book

***Recommended Books and References:***

1. Mishra, R.P. and Ramesh A. (1989): **Fundamentals of Cartography**, Concept Publishing Company, New Delhi.
2. Sarkar, A. K. (1997): **Practical Geography: A Systematic Approach**, Orient Longman, Kolkata
3. Singh, R. L. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.

**SEMESTER – VI**  
**DISCIPLINE SPECIFIC ELECTIVE 4**  
**POLITICAL GEOGRAPHY (THEORY)**  
**PAPER NO: GGD 6.21(a)**

*Contact Hours: 60*

*Credit: 4*

**UNIT I** Introduction: Concepts, Nature, Scope and recent trend in political geography.

**UNIT II** Concept of Nation and State, Attributes of State – Frontiers, Boundaries, Shape, Size, Territory and Sovereignty; Geopolitics; Theories (Heartland and Rimland)

**UNIT III** Electoral Geography – Geography of Voting, Geographic Influences on Voting pattern, Geography of Representation, Gerrymandering.

**UNIT IV** Resource and Conflicts Management – Water Sharing, Forest Rights and Minerals.

**UNIT V** Politics of Displacement: Issues of relief, compensation and rehabilitation: with reference to Dams and Special Economic Zones

***Recommended Books and References:***

1. Agnew J., 2002: *Making Political Geography*, Arnold.
2. Agnew J., Mitchell K. and Toal G., 2003: *A Companion to Political Geography*, Blackwell.
3. Cox K. R., Low M. and Robinson J., 2008: *The Sage Handbook of Political Geography*, Sage Publications.
4. Cox K., 2002: *Political Geography: Territory, State and Society*, Wiley-Blackwell
5. Gallaher C., et al, 2009: *Key Concepts in Political Geography*, Sage Publications.
6. Glassner M., 1993: *Political Geography*, Wiley.
7. Jones M., 2004: *An Introduction to Political Geography: Space, Place and Politics*, Routledge. Mathur H M and M M Cernea (eds.) Development, Displacement and Resettlement – Focus on Asian Experience, Vikas, Delhi
8. Painter J. and Jeffrey A., 2009: *Political Geography*, Sage Publications.
9. Taylor P. and Flint C., 2000: *Political Geography*, Pearson Education.
10. Verma M K (2004): Development, Displacement and Resettlement, Rawat Publications, Delhi
11. Hodder Dick, Sarah J Llyod and Keith S McLachlan (1998), *Land Locked States of Africa and Asia* (vo.2), Frank Cass

**SEMESTER – VI**  
**DISCIPLINE SPECIFIC ELECTIVE 4**  
**CARTOGRAPHIC TECHNIQUE II (PRACTICAL)**  
**PAPER NO: GGD 6.22**

*Contact Hours: 30*

*Credit: 2*

**Unit I** Projection: Polyconic and Bonne's with outline map

**Unit II** Layout Preparation of Location/Study area map using GIS Software

**Unit III** GPS: Principles, uses and data handling

**Unit IV** Viva Voce and Practical Note Book

***Recommended Books and References:***

1. Singh, R. L. and Singh, Rana: Elements of Practical Geography (Revised edition), Kalyan Publishers.
2. Monkhouse, F.J. and Wilkinson, F.J. (1985): **Maps and Diagrams**, Methuen, London.
3. Singh, L.R. (2006): **Fundamentals of Practical Geography**, Sharda Pustak Bhawan, Allahabad.

**SEMESTER – VI**  
**DISCIPLINE SPECIFIC ELECTIVE 4**  
**DISSERTATION**  
**PAPER NO: GGD 6.21(b)**

*Contact Hours: 90*

*Credit: 6*

This dissertation/project will be in lieu of a discipline specific elective paper. The students will be asked to select topics based on their interest. The topics will be of the specific course they are undertaking i.e. geography. The students will be assisted by their respective teacher in charge and at the end of the semester, the students will have to present a seminar of their projects at the end of the semester. They will also have to submit a hard copy of their project.

The paper will be assessed on the following points:

- a) Field Work : 40**
- b) Project report : 60**
- c) Seminar/presentation: 20**
- d) Viva-voce : 30**

