
B. SC. (HONOURS) GEOGRAPHY CBCS SYLLABUS

W.E.F. SESSION 2018-19



DEPARTMENT OF GEOGRAPHY
PANSKURA BANAMALI COLLEGE (AUTONOMOUS)

PURBA MEDINIPUR-721152

Programme Specific Outcomes of B.Sc. in Geography (H)

Critical Thinking: Understand the nature and basic concepts of geography, history, and evolution of the subject “Geography”. Students can understand the physical and human dimensions of geography and their interconnection. Students can make intelligent decisions in different applied perspectives for environmental and social development.

Practical idea and field experience:

In the course of field surveys, the experience of students as individuals and with groups may help to acquire some great understanding of the socio-economic and cultural dimensions of the populations and their adaptation to the native environment with a greater focus on the marginalized section of the society. Physical field surveys enable the students to understand the different geomorphic processes, human intervention and adaptation, and resultant environmental hazards. They can be trained to handle geographical instruments and methods like Aerial Photographs, Satellite Imagery, Digital dumpy level, Prismatic compass, G.P.S., and Meteorological instruments. Students can learn Computer-based techniques (Remote Sensing and GIS) and statistical analysis with SPSS and it may helpful to the students for further analytical studies.

Effective Social Interaction and Political thinking: From the ideas of social and cultural geography, students can interact with people effectively and maybe solved the basic problems of people and society. They can be able to critical analytics about social politics and state politics including the international geopolitical significance for their own country. Students can differentiate the rural and urban settlement and their interdependency, population migration patterns, and regional development ideas.

Ethical and moral development: Recognize different value systems including nature and environment and human society, understand the moral dimensions of your decisions, and accept responsibility for them. They can build their research ethics, social justice, values, and morality with a proper responsibility towards humanity.

Environment and Sustainability: Understand the issues of environmental problems, resources, and their sustainable development. Students can understand the sustainable use of resources, future prospective, and their responsibility to save the earth's environment and resource for the human future.

Choice Based Credit System
B.Sc. (Honours) Geography Course Framework

SEM	CORE COURSE	Ability Enhancement Compulsory Course (AECC)	Skill Enhancement Course (SEC)	Elective: Discipline Specific (DSE)	Elective: Generic (GE)
I	Geomorphology	Environmental Science			GE-1 Disaster Management
	Cartographic Techniques (Practical)				
II	Human Geography	(English/ MIL Communication)/			GE-2 Regional Development
	Thematic Cartography (Practical)				
III	Climatology		Advanced Spatial Statistical Techniques (Practical)		GE-3 Rural Development
	Statistical Methods in Geography (Practical)				
	Geography of India				
IV	Economic Geography		Research Methods (Practical)		GE-4 Industrial Geography
	Environmental Geography				
	Field Work and Research Methodology (Practical)				
V	Regional Planning and Development			Population Geography	
	Remote Sensing and GIS (Practical)			Urban Geography	
VI	Evolution of Geographical Thought			Political Geography	
	Disaster Management based Project Work (Practical)			Hydrology and Oceanography	

MARKS DISTRIBUTION

CC- Course Code; TR- Theory; PR- Practical; CIA- Continuous Internal Assessment; CAN- Class Attendance; T- Total

SEM	Core Course (CC)						Ability Enhancement Compulsory Course (AECC)						Skill Enhancement Course (SEC)						Elective: Discipline Specific (DSE)						Elective: Generic (GE)						SEM Total		
	CC	TR	PR	CIA	CAN	T	CC	TR	PR	CIA	CAN	T	CC	TR	PR	CIA	CAN	T	CC	TR	PR	CIA	CAN	T	CC	TR	PR	CIA	CAN	T			
I	C1	60		10	5	75	ENV	50	30	15	5	100															GE1	60		10	5	75	325
	C2	40	20	10	5	75																											
II	C3	60		10	5	75	ENG	40		5	5	50															GE2	60		10	5	75	275
	C4	40	20	10	5	75																											
III	C5	60		10	5	75							SEC1	25	15	5	5	50								GE3	60		10	5	75	350	
	C6	40	20	10	5	75																											
	C7	60		10	5	75																											
IV	C8	60		10	5	75							SEC2	25	15	5	5	50								GE4	60		10	5	75	350	
	C9	60		10	5	75																											
	C10	40	20	10	5	75																											
V	C11	60		10	5	75														DSE1	60		10	5	75							300	
	C12	40	20	10	5	75														DSE2	60		10	5	75								
VI	C13	60		10	5	75														DSE3	60		10	5	75							300	
	C14	40	20	10	5	75														DSE4	60		10	5	75								
Program Total																										1900							

Outlines of B.Sc. (Honours) Geography Syllabus

Core Courses

Semester I

C1T. Geomorphology

C2P & T. Cartographic Techniques (Practical)

Semester II

C3T. Human Geography

C4P. Thematic Cartography (Practical)

Semester III

C5T. Climatology

C6T. Geography of India

C7P. Statistical Methods in Geography (Practical)

Semester IV

C8T. Economic Geography

C9T. Environmental Geography

C10P. Field Work and Research Methodology (Practical)

Semester V

C11T. Regional Planning and Development

C12P. Remote Sensing and GIS (Practical)

Semester VI

C13T. Evolution of Geographical Thought

C14P. Disaster Management based Field Project Work (Practical)

Skill Enhancement Course (any 2)

Semester III

SEC3- P1. Remote Sensing (Practical)

SEC3- P2. Advanced Spatial Statistical Techniques (Practical)

Semester IV

SEC4-P1. Geographical Information System (Practical)

SEC4-P2. Research Methods (Practical)

Elective Discipline Specific (any four)

Semester V

DSE-1

DSE5.1.1. Population Geography

DSE5.1.2. Resource Geography

DSE-2

DSE5.2.1. Urban Geography

DSE5.2.2. Agricultural Geography

Semester VI

DSE-3

DSE6.1.1. Geography of Health and Wellbeing

DSE6.1.2. Political Geography

DSE-4

DSE6.2.1. Hydrology and Oceanography

DSE6.2.2. Social Geography

Elective Generic Papers (any four)

Semester I

GE1.1. Disaster Management

GE1.2. Geography of Tourism

Semester II

GE2.1. Spatial Information Technology

GE2.2. Regional Development

Semester III

GE3.1. Climate Change: Vulnerability and Adaptation

GE3.2. Rural Development

Semester IV

GE4.1. Industrial Geography

GE4.2. Sustainable Development

Note: Practical paper will not have tutorials.

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SEMESTER-I

DEPARTMENT OF GEOGRAPHY

PANSKURA BANAMALI COLLEGE (AUTONOMOUS)

PURBA MEDINIPUR-721152

SEM	CORE COURSE	Ability Enhancement	Skill Enhancement	Elective: Discipline	Elective: Generic (GE)
		Compulsory Course (AECC)	Course (SEC)	Specific DSE	(Optional)
I	Geomorphology	Environmental Science			GE-1 Disaster Management
	Cartographic Techniques (Practical)				

SEM	CORE COURSE						Ability Enhancement						Skill Enhancement Course	Elective: Discipline Specific	Elective: Generic (GE)					SEM TOTAL
	CC	TR	PR	CIA	CAN	T	CC	TR	PR	CIA	CAN	T			CC	TR	CIA	CAN	T	
I	C1	60		10	5	75	ENV	50	30	15	5	100		GE1	60	10	5	75	325	
	C2	40	20	10	5	75														

CC- Course Code; SEM- Semester; TR- Theory; PR- Practical; CIA- Continuous Internal Assessment; CAN- Class Attendance; T- Total

C1T. Geomorphology (Paper Code - GEOHCC1)

COURSE OBJECTIVES

- ✪ To understand the concept of geomorphology and its nature and scope.
 - ✪ To know the earth interior and the movement behind the endogenic and exogenic activity.
 - ✪ To understand the several geomorphic processes and their resultant landforms.
-

1. Geomorphology: Nature and Scope
 2. Earth: Interior Structure and Isostasy
 3. Earth Movements: Plate Tectonics, Types of Folds and Faults, Earthquakes and Volcanoes
 4. Geomorphic Processes: Weathering, Mass Wasting, Cycle of Erosion (Davis and Penck). Evolution of Landforms (Erosional and Depositional): Fluvial, Karst, Aeolian, Glacial, and Coastal.
-

COURSE OUTCOMES

After the completion of course, the students will have ability to understand the nature and scope of geomorphology. They able to identify the different layers of earth interior and their characteristics and also known the system behind the stability of different earth features. From this course students can be able to describe the different plates of earth surface and their movements and also explain the reason of earthquake and volcanic events and different folded and faulted earth features. Students can understand the different geomorphic processes like weathering, mass wasting, river action etc and their resultant erosional and depositional landforms seen in earth surface.

Reading List

1. Bloom A. L., 2003: *Geomorphology: A Systematic Analysis of Late Cenozoic Landforms*, Prentice-Hall of India, New Delhi.
2. Bridges E. M., 1990: *World Geomorphology*, Cambridge University Press, Cambridge.
3. Christopherson, Robert W., (2011), *Geosystems: An Introduction to Physical Geography*, 8 Ed., Macmillan Publishing Company
4. Kale V. S. and Gupta A., 2001: *Introduction to Geomorphology*, Orient Longman, Hyderabad.
5. Knighton A. D., 1984: *Fluvial Forms and Processes*, Edward Arnold Publishers, London.
6. Richards K. S., 1982: *Rivers: Form and Processes in Alluvial Channels*, Methuen, London.
7. Selby, M.J., (2005), *Earth's Changing Surface*, Indian Edition, OUP
8. Skinner, Brian J. and Stephen C. Porter (2000), *The Dynamic Earth: An Introduction to physical Geology*, 4th Edition, John Wiley and Sons
9. Thornbury W. D., 1968: *Principles of Geomorphology*, Wiley.

C2T. Cartographic Techniques (Practical) (Paper Code – GEOHCC2)

COURSE OBJECTIVES

- ❖ To know the concept scale and map projection and their types, process of graphical construction.
 - ❖ To understand and interpreted the topographical map and their different physical features.
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1. Cartography – Nature and Scope.
2. Scales – Concept and application; Graphical Construction of Plain, Comparative and Diagonal Scales.
3. Map Projections – Classification, Properties and Uses; Construction of Polar Zenithal Stereographic, Bonne’s and Mercator’s Projections, and reference to Universal Transverse Mercator (UTM) Projection.
4. Topographical Map – Interpretation of a Mountain area with the help of Cross and Longitudinal Profile
5. Relief and Slope Analysis for Plateau area with the help of SOI map.

COURSE OUTCOMES

After the completion of course, the students will have basic ideas about cartographic techniques and ability to read and prepare maps, comprehend locational and spatial aspects of the earth's surface. Use and importance of maps for regional development and decision making. They will be able to calculate and draw the different scales and map projections. Students can understand the relief and slope of mountain and plateau areas and interpret them from topographical sheets.

C2.P. Cartographic Techniques (Practical Laboratory work)

Syllabus as item no -C2

Practical Record: A Project File in pencil, comprising one exercise each, on scale, map projection, interpretation of topographic sheet and slope analysis.

Reading List

1. Anson R. and Ormelling F. J., 1994: *International Cartographic Association: Basic Cartographic Vol.* Pregmen Press.
2. Gupta K.K. and Tyagi, V. C., 1992: *Working with Map*, Survey of India, DST, New Delhi.
3. Mishra R.P. and Ramesh, A., 1989: *Fundamentals of Cartography*, Concept, New Delhi.

4. Monkhouse F. J. and Wilkinson H. R., 1973: *Maps and Diagrams*, Methuen, London.
5. Rhind D. W. and Taylor D. R. F., (eds.), 1989: *Cartography: Past, Present and Future*, Elsevier, International Cartographic Association.
6. Robinson A. H., 2009: *Elements of Cartography*, John Wiley and Sons, New York.
7. Sharma J. P., 2010: *PrayogicBhugol*, Rastogi Publishers, Meerut.
8. Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers.
9. Sarkar, A. (2015) *Practical geography: A systematic approach*. Orient Black Swan Private Ltd., New Delhi
10. Singh R L & Rana P B Singh (1991) *PrayogtmakBhugolkeMoolTatva*, Kalyani Publishers, New Delhi
11. Sharma, J P (2010) *PrayogtmakBhugolkiRooprekha*, Rastogi Publications, Meerut
12. Singh, R L & Dutta, P K (2012) *PrayogtmakBhugol*, Central Book Depot, Allahabad

GE1T. Disaster Management (Paper Code - GEOEGE1)

COURSE OUTCOME

After the completion of course, the students will have ability to: i) Gain a perspective of disasters and various dimensions of disaster management ii) Have comprehensive knowledge of various natural and manmade disasters in India iii) Examine the response and mitigation measures of disasters

1. Disasters: Definition and Concepts: Hazards, Disasters; Risk and Vulnerability; Classification
2. Disasters in India: (a) Flood: Causes, Impact, Distribution and Mapping; Landslide: Causes, Impact, Distribution and Mapping; Drought: Causes, Impact, Distribution and Mapping
3. Disasters in India: (b) Earthquake and Tsunami: Causes, Impact, Distribution and Mapping; Cyclone: Causes, Impact, Distribution and Mapping.
4. Manmade disasters: Causes, Impact, Distribution and Mapping
5. Response and Mitigation to Disasters: Mitigation and Preparedness, NDMA and NIDM; Indigenous Knowledge and Community-Based Disaster Management; Do's and Don'ts During and Post Disasters

Reading List

1. Government of India. (1997) *Vulnerability Atlas of India*. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010) *Vulnerable India: A Geographical Study of Disasters*, Sage Publication, New Delhi.

3. Modh, S. (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disasters, Macmillan, Delhi.
4. Singh, R.B. (2005) Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi. Chapter 1, 2 and 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 Oppurtunities”, 2007.
Publisher- I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India (www.ikbooks.com).

B. SC. (HONOURS) GEOGRAPHY CBCS SYLLABUS

W.E.F. SESSION 2018-19



SEMESTER-II

**DEPARTMENT OF GEOGRAPHY
PANSKURA BANAMALI COLLEGE (AUTONOMOUS)
PURBA MEDINIPUR-721152**

SEM	CORE COURSE	Ability Enhancement	Skill Enhancement	Elective: Discipline	Elective: Generic (GE)
		Compulsory Course (AECC)	Course (SEC)	Specific DSE	(Optional)
II	Human Geography	(English/ Hindi/ MIL Communication)/			GE-1 Regional Development
	Thematic Cartography(Practical)				

SEM	CORE COURSE						Ability Enhancement						Skill Enhancement Course	Elective: Discipline Specific	Elective: Generic (GE)					SEM TOTAL
	CC	TR	PR	CIA	CAN	T	CC	TR	PR	CIA	CAN	T			CC	TR	CIA	CAN	T	
II	C3	60		10	5	75	ENG	40		5	5	50			GE2	60	10	5	75	275
	C4	40	20	10	5	75														

CC- Course Code; SEM- Semester; TR- Theory; PR- Practical; CIA- Continuous Internal Assessment; CAN- Class Attendance; T- Total

C3T. Human Geography (Paper Code - GEOHCC3)

COURSE OBJECTIVES

- ❖ To understand the human geography including human race, religion, and language in different cultural regions.
 - ❖ To understand the population and their distribution and growth throughout the world.
 - ❖ To describe the types of settlement and their pattern.
-

1. Introduction: Defining Human Geography; Major Themes; Contemporary Relevance
2. Space and Society: Cultural Regions; Race; Religion and Language
3. Population: Population Growth and Distribution; Population Composition; Demographic Transition Theory
4. Settlements: Types of Rural Settlements; Classification of Urban Settlements; Trends and Patterns of World Urbanization
5. Population-Resource Relationship

COURSE OUTCOMES

After the completion of course, the students will have ability to: Know the changing human and cultural landscape at different levels. Understand patterns and processes of population growth and its implications. Appreciate the nature and quality of human landscapes. From this course students can understand the human geography, different cultural regions, spatial variation of race religion and language of people of the world and India. From this study students can explain the distribution composition and growth of world population. Students can classify the different rural and urban settlement and can understand the recent trend of world urbanization.

Reading List

1. Chandna, R.C. (2010) Population Geography, Kalyani Publisher.
2. Hassan, M.I. (2005) Population Geography, Rawat Publications, Jaipur
3. Daniel, P.A. and Hopkinson, M.F. (1989) The Geography of Settlement, Oliver & Boyd, London.
4. Johnston R; Gregory D, Pratt G. et al. (2008) The Dictionary of Human Geography, Blackwell Publication.
5. Jordan-Bychkov et al. (2006) The Human Mosaic: A Thematic Introduction to Cultural Geography. W. H. Freeman and Company, New York.
6. Kaushik, S.D. (2010) ManavBhugol, Rastogi Publication, Meerut.
7. Maurya, S.D. (2012) ManavBhugol, ShardaPustakBhawan. Allahabad.
8. Hussain, Majid (2012) ManavBhugol. Rawat Publications, Jaipur

C4T. Thematic Cartography (Practical) (Paper Code – GEOHCC4)

COURSE OBJECTIVES

- ❖ To know about maps, their types, and diagrammatic representation techniques.
 - ❖ To interpreted different geological maps and to understand the different Survey Techniques.
-

1. Maps – Classification and Types; Principles of Map Design.
 2. Diagrammatic Data Presentation – Line, Bar and Circle (using MS Excel).
 3. Thematic Mapping Techniques – Properties, Uses and Limitations; Areal Data -- Choropleth, Dot, Proportional Circles; Point Data – Isopleths.
 4. Geological Maps – Preparation cross section and Interpretation.
 5. Survey Techniques: Prismatic, Dumpy level, Transit Theodolite
-

COURSE OUTCOMES

Form this course students can understand the maps and their different types and they would be able to prepared and represent different thematic maps including their properties and use. By understanding geological maps students can be interpreted the geological history. Students can survey any region by their understanding about surveyed techniques like dumpy level.

C4.P. Thematic Cartography (Practical Laboratory work)

Syllabus as item no -C4

Practical Record: A Thematic Atlas should be prepared on a specific theme with five plates of any state in India.

Reading List

1. Cuff J. D. and Mattson M. T., 1982: *Thematic Maps: Their Design and Production*, Methuen Young Books
2. Dent B. D., Torguson J. S., and Holder T. W., 2008: *Cartography: Thematic Map Design* (6th Edition), McGraw-Hill Higher Education
3. Gupta K. K. and Tyagi V. C., 1992: *Working with Maps*, Survey of India, DST, New Delhi.

4. Kraak M.-J. and Ormeling F., 2003: *Cartography: Visualization of Geo-Spatial Data*, Prentice-Hall.
5. Mishra R. P. and Ramesh A., 1989: *Fundamentals of Cartography*, Concept, New Delhi.
6. Sharma J. P., 2010: *PrayogicBhugol*, Rastogi Publishers, Meerut.
7. Singh R. L. and Singh R. P. B., 1999: *Elements of Practical Geography*, Kalyani Publishers.
8. Slocum T. A., McMaster R. B. and Kessler F. C., 2008: *Thematic Cartography and Geovisualization* (3rd Edition), Prentice Hall.
9. Tyner J. A., 2010: *Principles of Map Design*, The Guilford Press.
10. Sarkar, A. (2015) *Practical geography: A systematic approach*. Orient Black Swan Private Ltd., New Delhi
11. Singh, L R & Singh R (1977): *Manchitra or ParyaogatamekBhugol* , Central Book, Depot, Allahabad
12. Bhopal Singh R L and Duttta P K (2012) *PrayogatamaBhugol*, Central Book Depot, Allahabad

GE2T. Regional Development (Paper Cede - GEOEGE2)

COURSE OUTCOMES

After the completion of course, the students will have ability to: i) Identify notable lagging regions and solutions for their overall development ii) Have comprehensive understanding regarding the different regions and application of different models and theories for integrated regional development. iii) Select appropriate indicators for the measurement of socio-economic regional development

1. Definition of Region, Evolution, Types and Need of Regional planning: Formal, Functional, and Planning Regions and Regional Development.
2. Regional Imbalances and Problems of Functional Regions.
3. Choice of a Region for Planning: Characteristics of an Ideal Planning Region; Delineation of Planning Region; Regionalization of India for Planning (Agro Ecological Zones)
4. Strategies/Models for Regional Planning: Growth Pole Model of Perroux; Growth Centre Model in Indian Context; Village Cluster
5. Problem Regions and Regional Planning: Backward Regions and Regional Plans- Special Area Development Plans in India; DVC-The Success Story and the Failures.

Reading List

1. Adell, Germán (1999) Literature Review: Theories and Models Of The Peri-Urban Interface: A Changing Conceptual Landscape, Peri-urban Research Project Team, Development Planning Unit, University College London at
2. Bhatt, L.S. (1976) Micro Level Planning in India. KB Publication, Delhi
3. Deshpande C. D., 1992: *India: A Regional Interpretation*, ICSSR, New Delhi.
4. Dreze J. and A. Sen, Indian Development: Select Regional Perspectives (Oxford: Oxford University Press, 1996).
5. Ses, Amratya (2000) Development as Freedom. Random House, Toronto
6. Raza, M., Ed. (1988). Regional Development. Contributions to Indian Geography. New Delhi, Heritage Publishers.
7. Rapley, John (2007) Understanding Development: Theory and Practice in the 3rd World. Lynne Rienner, London.
8. Schmidt-Kallert, Einhard (2005) A Short Introduction to Micro-Regional Planning, Food and Agriculture Organization of the United Nations (FAO) at
9. Sdyasuk Galina and P Sengupta (1967): *Economic Regionalisation of India*, Census of India

B. SC. (HONOURS) GEOGRAPHY CBCS SYLLABUS

W.E.F. SESSION 2018-19



SEMESTER-III

DEPARTMENT OF GEOGRAPHY

PANSKURA BANAMALI COLLEGE (AUTONOMOUS)

PURBA MEDINIPUR-721152

SEM	CORE COURSE	Ability Enhancement	Skill Enhancement	Elective: Discipline	Elective: Generic (GE)
		Compulsory Course (AECC)	Course (SEC)	Specific DSE	(Optional)
III	Climatology		Advanced Spatial Statistical Techniques		GE-3Rural Development
	Statistical Methods in Geography (Practical)				
	Geography of India				

SEM	CORE COURSE (14)						Ability Enhancement	Skill Enhancement Course						Elective: Discipline Specific	Elective: Generic (GE)					SEM TOTAL
	CC	TR	PR	CIA	CAN	T		CC	TR	PR	CIA	CAN	T		CC	TR	CIA	CAN	T	
III	C5	60		10	5	75	Ability Enhancement	SEC1	20	20	5	5	50	Elective: Discipline Specific	GE3	60	10	5	75	350
	C6	40	20	10	5	75														
	C7	60		10	5	75														

CC- Course Code; SEM- Semester; TR- Theory; PR- Practical; CIA- Continuous Internal Assessment; CAN- Class Attendance; T- Total

C5T. Climatology (Paper Code - GEOHCC5)

COURSE OBJECTIVES

- ✪ To know about atmospheric structure, composition and temperature variation.
 - ✪ To understand the atmospheric pressure and resultant different wind flows and also understand the atmospheric moisture and resultant climatic events.
 - ✪ To explain the cyclones and their formation and effects.
-

1. Atmospheric Composition and Structure – Variation with Altitude, Latitude and Season.
2. Insolation and Temperature – Factors and Distribution, Heat Budget, Temperature Inversion.
3. Atmospheric Pressure and Winds – Planetary Winds, Forces affecting Winds, General Circulation, Jet Streams.
4. Atmospheric Moisture – Evaporation, Humidity, Condensation, Fog and Clouds, Precipitation Types, Stability and Instability; Climatic Regions (Koppen)
5. Cyclones – Tropical Cyclones, Extra Tropical Cyclones, Monsoon - Origin and Mechanism.

COURSE OUTCOMES

Form this course students can understand different composition of air and the structure and layers of atmosphere including the variation of temperature. Students can describe the atmospheric pressure belt and related wind flows and their circulation including the idea about jet stream. They also understand the atmospheric moisture and related climatic events and depend on this they can classify the different climatic regions. Form this course students also can explain the different cyclonic events and their mechanism.

Reading List

1. Barry R. G. and Carleton A. M., 2001: *Synoptic and Dynamic Climatology*, Routledge, UK.
2. Barry R. G. and Corley R. J., 1998: *Atmosphere, Weather and Climate*, Routledge, New York.
3. Critchfield H. J., 1987: *General Climatology*, Prentice-Hall of India, New Delhi
4. Lutgens F. K., Tarbuck E. J. and Tasa D., 2009: *The Atmosphere: An Introduction to Meteorology*, Prentice-Hall, Englewood Cliffs, New Jersey.
5. Oliver J. E. and Hidore J. J., 2002: *Climatology: An Atmospheric Science*, Pearson Education, New Delhi.
6. Trewartha G. T. and Horne L. H., 1980: *An Introduction to Climate*, McGraw-Hill.

C6T. Statistical Methods in Geography (Practical) **(Paper Code – GEOHCC6)**

COURSE OBJECTIVES

- ✪ To understand the statistical methods in geography, data source and different scale of measurement.
 - ✪ To know the calculation processes of descriptive statistics like mean median, standard deviation etc.
 - ✪ To understand the sampling types and probability distribution of data and their co-relationships.
-

1. Use of Data in Geography: Geographical Data Matrix, Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio).
2. Tabulation and Descriptive Statistics: Frequencies (Deciles, Quartiles), Cross Tabulation, Central Tendency (Mean, Median and Mode, Centro-graphic Techniques, Dispersion (Standard Deviation, Variance and Coefficient of Variation).
3. Sampling: Purposive, Random, Systematic and Stratified.
4. Theoretical Distribution: Probability and Normal Distribution.
5. Association and Correlation: Rank Correlation, Product Moment Correlation, and Simple Regression, Residuals from regression

COURSE OUTCOMES

Form this course students can understand different statistical methods, data source and their tabulation including different scale of measurement in geography. Students can tabulate and calculate different descriptive statistics and can measure the dispersion of the correlated data sets. They also can understand the different techniques of sampling and the distribution of the data and based on this understanding they can associate or co-relate the data by several correlation methods.

C6P. Statistical Methods in Geography (Practical Laboratory work)

Class Record: Each student will submit a record containing five exercises:

1. Construct a data matrix of about (10 x 10) with each row representing an areal unit (districts or villages or towns) and about 10 columns of relevant attributes of the areal units.
2. Based on the above table, a frequency table, measures of central tendency and dispersion would be computed and interpreted for any two attributes.

3. Histograms and frequency curve would be prepared **on the entire data set** and attempt to fit a normal curve and interpreted for one or two variables.
4. From the data matrix a sample set (20 Percent) would be drawn using, random - systematic and stratified methods of sampling and locate the samples on a map with a short note on methods used.
5. Based on of the sample set and using two relevant attributes, a scatter and regression line would be plotted and residual from regression would be mapped with a short interpretation.

Reading List

1. Berry B. J. L. and Marble D. F. (eds.): *Spatial Analysis – A Reader in Geography*.
2. Ebdon D., 1977: *Statistics in Geography: A Practical Approach*.
3. Hammond P. and McCullagh P. S., 1978: *Quantitative Techniques in Geography: An Introduction*, Oxford University Press.
4. King L. S., 1969: *Statistical Analysis in Geography*, Prentice-Hall.
5. Mahmood A., 1977: *Statistical Methods in Geographical Studies*, Concept.
6. Pal S. K., 1998: *Statistics for Geoscientists*, Tata McGraw Hill, New Delhi.
7. Sarkar, A. (2013) *Quantitative geography: techniques and presentations*. Orient Black Swan Private Ltd., New Delhi
8. Silk J., 1979: *Statistical Concepts in Geography*, Allen and Unwin, London.
9. Spiegel M. R.: *Statistics, Schaum's Outline Series*.
10. Yeates M., 1974: *An Introduction to Quantitative Analysis in Human Geography*, McGraw Hill, New York.
11. Shinha, Indira (2007) *Sankhyikibhugol*. Discovery Publishing House, New Delhi

C7T. Geography of India (Paper Code – GEOHCC7)

COURSE OBJECTIVES

- ❖ To understand the physiographic, demographic, economic and social characteristics of India and based on this understanding know the regional sub-division of India.
-

1. Physical: Physiographic Divisions, soil and vegetation, climate (characteristics and classification), drainage.
2. Population: Distribution and growth, Structure
3. Economic: Mineral and power resources distribution and utilisation of iron ore, coal, petroleum, gas; agricultural production and distribution of rice and wheat, industrial development: automobile and Information technology

4. Social: Distribution of population by race, caste, religion, language, tribes and their correlates
5. Regionalisation of India: Physiographic (R. L. Singh), Socio – cultural (Sopher), Economic (Sengupta)

COURSE OUTCOMES

From this course students can understand physiographic division of India in terms of natural vegetation, soil, drainage and climatic variation. They can understand the India's population growth, distribution and social structure. They also identify the major minerals and resources distributed throughout India including modern development. Finally, they can explain the regional division of India in different perspectives.

Reading List

1. Deshpande C. D., 1992: *India: A Regional Interpretation*, ICSSR, New Delhi.
2. Johnson, B. L. C., ed. 2001. *Geographical Dictionary of India*. Vision Books, New Delhi.
3. Mandal R. B. (ed.), 1990: *Patterns of Regional Geography – An International Perspective. Vol. 3 –Indian Perspective*.
4. Sdyasuk Galina and P Sengupta (1967): *Economic Regionalisation of India*, Census of India
5. Sharma, T. C. 2003: *India - Economic and Commercial Geography*. Vikas Publ., New Delhi.
6. Singh R. L., 1971: *India: A Regional Geography*, National Geographical Society of India.
7. Singh, Jagdish 2003: *India - A Comprehensive & Systematic Geography*, GyanodayaPrakashan, Gorakhpur.
8. Spate O. H. K. and Learmonth A. T. A., 1967: *India and Pakistan: A General and Regional Geography*, Methuen.
9. Tirtha, Ranjit 2002: *Geography of India*, RawatPubls., Jaipur & New Delhi.
10. Pathak, C. R. 2003: *Spatial Structure and Processes of Development in India*. Regional Science Assoc., Kolkata.
11. Tiwari, R.C. (2007) *Geography of India*. PrayagPustakBhawan, Allahabad
12. Sharma, T.C. (2013) *Economic Geography of India*. Rawat Publication, Jaipur

SEC1T. Advanced Spatial Statistical Techniques (Paper Code - GEOHSE1)

COURSE OUTCOMES

After the completion of course, the students will have ability to: i) Understand the basics of data collection and, processing for the meaningful outcomes ii) Understand the selection of proper sampling techniques for the collection of data iii) Put into practice the results obtained for spatial analysis of results and to apply various statistical software for the study.

1. Statistics and Statistical Data: Spatial and non-spatial; indices of inequality and disparity.
2. Probability theory, probability density functions with respect to Normal, Binomial and Poisson distributions and their geographical applications.
3. Sampling: Sampling plans for spatial and non-spatial data, sampling distributions; sampling estimates for large and small samples tests involving means and proportions.
4. Correlation and Regression Analysis: Rank order correlation and product moment correlation; linear regression, residuals from regression, and simple curvilinear regression; Introduction to multi-variate analysis.
5. Time Series Analysis: Time Series processes; Smoothing time series; Time series components.

SEC1P. Advanced Spatial Statistical Techniques

Syllabus as item no - 1

Practical Record: A project file consisting of 5 exercises on using any method on above mentioned themes.

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

Reading List

1. Bart James E and GerldM.Barber, 1996: Elementary Statistics for Geographers, The Guieford 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 Cahrles, 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

GE3T. Rural Development (Paper Code - GEOEGE3)

COURSE OUTCOMES

After the completion of course, the students will have ability to: i) Appreciate the concepts, needs and various approaches to rural development; ii) Understand the strong economic bases of rural areas of India; iii) Appreciate the area based and target group-based approaches and provision of services to rural development

1. Defining Development: Inter-Dependence of Urban and Rural Sectors of the Economy; Need for Rural Development, Gandhian Approach of Rural Development.
2. Rural Economic Base: Panchayati Raj System, Agriculture and Allied Sectors, Seasonality and Need for Expanding Non-Farm Activities, Co-operatives, PURA.
3. Area Based Approach to Rural Development: Drought Prone Area Programmes, PMGSY.
4. Target Group Approach to Rural Development: SJSY, MNREGA, Jan Dhan Yojana and Rural Connectivity.
5. Provision of Services – Physical and Socio-Economic Access to Elementary Education and Primary Health Care and Micro credit

Reading List

1. Gilg A. W., 1985: *An Introduction to Rural Geography*, Edwin Arnold, London.
2. Krishnamurthy, J. 2000: *Rural Development - Problems and Prospects*, RawatPubls., Jaipur
3. Lee D. A. and Chaudhri D. P. (eds.), 1983: *Rural Development and State*, Methuen, London.
4. Misra R. P. and Sundaram, K. V. (eds.), 1979: *Rural Area Development: Perspectives and Approaches*, Sterling, New Delhi.
5. Misra, R. P. (ed.), 1985: *Rural Development: Capitalist and Socialist Paths*, Vol. 1, Concept, New Delhi.
6. Palione M., 1984: *Rural Geography*, Harper and Row, London.
7. Ramachandran H. and Guimaraes J.P.C., 1991: *Integrated Rural Development in Asia – Learning from Recent Experience*, Concept Publishing, New Delhi.
8. Robb P. (ed.), 1983: *Rural South Asia: Linkages, Change and Development*, Curzon Press.
9. UNAPDI 1986: *Local Level Planning and Rural Development: Alternative Strategies*. (United Nations Asian & Pacific Development Institute, Bangkok), Concept Publs. Co., New Delhi.
10. Wanmali S., 1992: *Rural Infrastructure Settlement Systems and Development of the Regional Economy in South India*, International Food Policy Research Institute, Washington, D.C.
11. Yugandhar, B. N. and Mukherjee, Neela (eds.) 1991: *Studies in Village India: Issues in Rural Development*, Concept Publs. Co., New Delhi. (Kramer et al. n.d.)

C8T. Economic Geography (Paper Code - GEOHCC8)

COURSE OBJECTIVES

- ❖ To understand the concept of different economic activities and the factors determine the location of these activities.
 - ❖ To understand the different sectors of economic activities and their influences in economic growth.
-

1. Introduction: Concept and classification of economic activity
2. Factors Affecting location of Economic Activity with special reference to Agriculture (Von Thunen theory), Industry (Weber's theory), and Market (Losch).
3. Primary Activities: Subsistence and Commercial agriculture, forestry, fishing and mining.
4. Secondary Activities: Manufacturing (Cotton Textile, Iron and Steel), Concept of Manufacturing Regions, Special Economic Zones and Technology Parks.
5. Tertiary Activities: Transport, Trade and Services.

COURSE OUTCOMES

Form this course students can understand the concept of different economic activities and the theories which recognized the factors affecting the location of economic activity. They can also classify economic activities including their spatial distribution in India and the roles in trade and commerce.

Reading List

1. Alexander J. W., 1963: *Economic Geography*, Prentice-Hall Inc., Englewood Cliffs, New Jersey.
2. Coe N. M., Kelly P. F. and Yeung H. W., 2007: *Economic Geography: A Contemporary Introduction*, Wiley-Blackwell.
3. Hodder B. W. and Lee Roger, 1974: *Economic Geography*, Taylor and Francis.
4. Combes P., Mayer T. and Thisse J. F., 2008: *Economic Geography: The Integration of Regions and Nations*, Princeton University Press.
5. Wheeler J. O., 1998: *Economic Geography*, Wiley.
6. Durand L., 1961: *Economic Geography*, Crowell.
7. Bagchi-Sen S. and Smith H. L., 2006: *Economic Geography: Past, Present and Future*, Taylor and Francis.
8. Willington D. E., 2008: *Economic Geography*, Husband Press.
9. Clark, Gordon L.; Feldman, M.P. and Gertler, M.S., eds. 2000: *The Oxford*

C9T. Environmental Geography (Paper Code – GEOHCC9)

COURSE OBJECTIVES

- ❖ To understand the concept and scope of environmental geography and human-environment relationship.
 - ❖ To know the concept of ecosystem and its structure, functions, problems and relevant management policies.
-

1. Environmental Geography – Concept and Scope
2. Human-Environment Relationships – Historical Progression, Adaptation in different Biomes.
3. Ecosystem – Concept, Structure and Functions
4. Environmental Problems in Tropical, Temperate and Polar Ecosystems
5. Environmental Programmes and Policies – Global, National and Local levels

COURSE OUTCOMES

From this course students can understand the concept and scope of environmental geography and its interaction with human society and adaptation to environment. They can understand the structure and function of ecosystem and problems of different climatic ecosystems. They can also be able to be aware of the policies and regulation regarding the protection of natural environment.

Reading List

1. Chandna R. C., 2002: *Environmental Geography*, Kalyani, Ludhiana.
2. Cunningham W. P. and Cunningham M. A., 2004: *Principals of Environmental Science: Inquiry and Applications*, Tata Macgraw Hill, New Delhi.
3. Goudie A., 2001: *The Nature of the Environment*, Blackwell, Oxford.
4. Singh, R.B. (Eds.) (2009) *Biogeography and Biodiversity*. Rawat Publication, Jaipur
5. Miller G. T., 2004: *Environmental Science: Working with the Earth*, Thomson BrooksCole, Singapore.
6. MoEF, 2006: *National Environmental Policy-2006*, Ministry of Environment andForests, Government of India.
7. Singh, R.B. and Hietala, R. (Eds.) (2014) *Livelihood security in Northwestern Himalaya: Case studies from changing socio-economic environments in Himachal Pradesh, India*. *Advances in Geographical and Environmental Studies*, Springer
8. Odum, E. P. et al, 2005: *Fundamentals of Ecology*, Ceneage Learning India.

9. Singh S., 1997: *Environmental Geography*, PrayagPustakBhawan. Allahabad.
10. UNEP, 2007: *Global Environment Outlook: GEO4: Environment For Development*, United Nations Environment Programme.
11. Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) *Climate change and biodiversity: Proceedings of IGU Rohtak Conference, Volume 1. Advances in Geographical and Environmental Studies*, Springer
12. Singh, R.B. (1998) *Ecological Techniques and Approaches to Vulnerable Environment*, New Delhi, Oxford & IBH Pub.
13. Singh, Savindra 2001. *ParyavaranBhugol*, PrayagPustakBhawan, Allahabad. (in Hindi)

C10T. Field Work and Research Methodology (Practical) (Paper Code – GEOHCC10)

COURSE OBJECTIVES

- ❖ To understand the ideas of procedure of field survey of research work.
- ❖ To know about the uses of field tools and the field report writing techniques.

-
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)
 4. Use of Field Tools – Collection of Material for Physical and Socio-Economic Surveys.
 5. Designing the Field Report – Aims and Objectives, Methodology, Analysis, Interpretation and Writing the Report.

COURSE OUTCOMES

From this course students can understand the field work techniques and the case studies of different perspectives. They can build a proper interview questionnaire for field survey. They can be able to use different tools for field work and also design proper field report with definite objectives, methodology and conclusion.

C10P. Field Work based on Research Methodology (Field work)

Practical Record

1. Each student will prepare an individual report based on primary and secondary data collected during field work.
2. The duration of the field work should not exceed 10 days.
3. The word count of the report should be about **8000 to 12,000** excluding figures, tables, photographs, maps, references and appendices.
4. One copy of the report on A 4 size paper should be submitted in soft binding.

Reading List

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. Mukherjee, Neela 1993. *Participatory Rural Appraisal: Methodology and Application*. Concept Pubs. Co., New Delhi.
5. Mukherjee, Neela 2002. *Participatory Learning and Action: with 100 Field Methods*. Concept Pubs. Co., New Delhi
6. 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.
7. Special Issue on "Doing Fieldwork" *The Geographical Review* 91:1-2 (2001).
8. Stoddard R. H., 1982: *Field Techniques and Research Methods in Geography*, Kendall/Hunt.
9. Wolcott, H. 1995. *The Art of Fieldwork*. Alta Mira Press, Walnut Creek, C

SEC2T. Research Methods (Practical) (Paper Code - GEOHSE2)

COURSE OUTCOMES

After the completion of course, the students will have ability to: i) conduct proper field work for the collection of primary data to bring out grass roots realities. ii) Make use of proper tools and surveying methods for measurement in context of collection and processing of data. iii) Prepare a report based on field data.

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
5. Preparations of Research Report

SEC2P. Research Methods (Practical)

Syllabus as item no -4

Practical Record: A Project file consisting of Field based report (Village / Small town) analysis of Primary and Secondary data.

Reading List

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.
11. Wolcott, H. 1995. *The Art of Fieldwork.* Alta Mira Press, Walnut Creek, CA.
12. Yadav, H. (2013) *ShodhPravidhiEvamMatratamakBhugol*, Raja Publications, Delhi.

GE4T. Industrial Geography (Paper Code - GEOEGE4)

COURSE OUTCOMES

After the completion of course, the students will have ability to: i) Understand the factors responsible for location of an industry. ii) Differentiate various types of industries and industrial regions and policies of India. iii) Evaluate the socio, economic and environmental implications of various types of industries

1. Nature and Scope of Industrial Geography
2. Types, Geographical Characteristics and Location of Industries (Weber's Theory): Small and Medium Industries, Heavy Industries: Coal and Iron based industries; Rural based Industries, Footloose Industry.
3. Mega Industrial Complexes: National Capital Region, Mumbai-Pune Industrial Region, Bengaluru-Chennai Industrial Region and Chhota Nagpur Industrial Region
4. Impact of Industrialisation in India: Environmental; Social and Economic
5. Industrial Policy of India

Reading List

1. Alexander J.W. (1979). *Economic Geography*, Printice Hall of India Pvt. Ltd., New Delhi.
2. Goh Cheng Leong (1997). "Human and economic geography", Oxford University Press, New York.
3. Thoman, R.S., Conkling E.C. and Yeates, M.H. (1968). *Geography of Economic Activity*, McGraw Hill Book Company, 1968.
4. Miller, E. (1962) *Geography of Manufacturing* Printice Hall - Englewood Cliff, New Jersey
5. Gunnar Alexandersson (1967). "Geography of Manufacturing, Prentice Hall, New Jersey Truman, A. Harishorn, John W. Alexander (2000) " *Economic Geography*", Prentice Hall of India Ltd., New Delhi.
6. Singh, Jagdish 2003: *India - A Comprehensive & Systematic Geography*, GyanodayaPrakashan, Gorakhpur.
7. Tirtha, Ranjit 2002: *Geography of India*, RawatPubls., Jaipur & New Delhi.
8. Pathak, C. R. 2003: *Spatial Structure and Processes of Development in India*. Regional Science Assoc., Kolkata.
9. Tiwari, R.C. (2007) *Geography of India*. PrayagPustakBhawan, Allahabad
10. Sharma, T.C. (2013) *Economic Geography of India*. Rawat Publication, Jaipur

B. SC. (HONOURS) GEOGRAPHY CBCS SYLLABUS

W.E.F. SESSION 2018-19



SEMESTER-V

**DEPARTMENT OF GEOGRAPHY
PANSKURA BANAMALI COLLEGE (AUTONOMOUS)
PURBA MEDINIPUR-721152**

SEM	CORE COURSE	Ability Enhancement	Skill Enhancement	Elective: Discipline	Elective: Generic (GE)
		Compulsory Course (AECC)	Course (SEC)	Specific DSE	(Optional)
V	Regional Planning and Development			Population Geography	
	Remote Sensing and GIS			Urban Geography	

SEM	CORE COURSE						Ability Enhancement	Skill Enhancement Course	Elective: Discipline Specific						Elective: Generic (GE)	SEM TOTAL
	CC	TR	PR	CIA	CAN	T			CC	TR	PR	CIA	CAN	T		
V	C11	60		10	5	75		DSE1	60		10	5	75		300	
	C12	40	20	10	5	75		DSE2	60		10	5	75			

C11T. Regional Planning and Development (Paper Code - GEOHCC11)

COURSE OBJECTIVES

- ✪ To understand the ideas region and regional planning and their types.
 - ✪ To know the India's planning region and regionalization.
 - ✪ To understand the different theories and models of regional planning by several scholars.
 - ✪ To provide ideas of development, underdevelopment and measuring indicators.
-

1. Definition of Region, Evolution and Types of Regional planning: Formal, Functional, and Planning Regions and Regional Planning; Need for Regional Planning; Types of regional Planning.
2. Choice of a Region for Planning: Characteristics of an Ideal Planning Region; Delineation of Planning Region; Regionalization of India for Planning (Agro Ecological Zones)
3. Theories and Models for Regional Planning: Growth Pole Model of Perroux; Growth Centre Model in Indian Context; Myrdal, Hirschman, Rostow and Friedmann; Village Cluster
4. Changing Concept of Development, Concept of underdevelopment; Efficiency-Equity Debate
5. Measuring development: Indicators (Economic, Social and Environmental); Human development.

COURSE OUTCOMES

Form this course students can understand the regional concept and their types and necessity of regional planning. They can also understand the different planning regions of India and regionalization pattern. They concern about the theories and model given by many authors about regional planning. The ideas of development and underdevelopment economy and also know the indicators of economic development.

Reading List

1. Blij H. J. De, 1971: *Geography: Regions and Concepts*, John Wiley and Sons.
2. Claval P., 1998: *An Introduction to Regional Geography*, Blackwell Publishers, Oxford and Massachusetts.
3. Friedmann J. and Alonso W. (1975): *Regional Policy - Readings in Theory and Applications*, MIT Press, Massachusetts.
4. Gore C. G., 1984: *Regions in Question: Space, Development Theory and Regional Policy*, Methuen, London.
5. Gore C. G., Köhler G., Reich U-P. and Ziesemer T., 1996: *Questioning Development; Essays on the Theory, Policies and Practice of Development Intervention*, Metropolis- Verlag, Marburg.

6. Haynes J., 2008: *Development Studies*, Polity Short Introduction Series.
7. Johnson E. A. J., 1970: *The Organization of Space in Developing Countries*, MIT Press, Massachusetts.
8. Peet R., 1999: *Theories of Development*, The Guilford Press, New York.
9. UNDP 2001-04: *Human Development Report*, Oxford University Press.
10. World Bank 2001-05: *World Development Report*, Oxford University Press, New

C12T. Remote Sensing and GIS (Practical) (Paper Code - GEOHCC12)

COURSE OBJECTIVES

- ❖ To understand the concept of remote sensing and GIS and aerial photography.
- ❖ To understand the satellite remote sensing, data structure, image processing, interpretation and application of these techniques.

-
1. Remote Sensing and GIS: Definition and Components, Development, Platforms and Types,
 2. Aerial Photography and Satellite Remote Sensing: Principles, Types and Geometry of Aerial Photograph; Principles of Remote Sensing, EMR Interaction with Atmosphere and Earth Surface; Satellites (Landsat and IRS) and Sensors.
 3. GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure
 4. Image Processing (Digital and Manual) and Data Analysis: Pre-processing (Radiometric and Geometric Correction), Enhancement (Filtering); Classification (Supervised and Un-supervised), Geo-Referencing; Editing and Output; Overlays
 5. Interpretation and Application of Remote Sensing and GIS: Land use/ Land Cover, Urban Sprawl Analysis; Forests Monitoring

COURSE OUTCOMES

Form this course students can understand concept of remote sensing and GIS. They are able to know about aerial photography and satellite remote sensing and their principle. They also have known the data structures their types and analysis including the image processing techniques and interpolation of this method into different applied perspectives.

C12P. Remote Sensing and GIS (Practical Laboratory work)

Practical Record: A project file consisting of two exercises will be done from aerial photos and satellite images (scale, orientation and interpretation) and 3 exercises on using any GIS Software on abovementioned themes.

Reading List

1. Campbell J. B., 2007: *Introduction to Remote Sensing*, Guildford Press.
2. Jensen J. R., 2004: *Introductory Digital Image Processing: A Remote Sensing Perspective*, Prentice Hall.
3. Joseph, G. 2005: *Fundamentals of Remote Sensing* United Press India.
4. Lillesand T. M., Kiefer R. W. and Chipman J. W., 2004: *Remote Sensing and Image Interpretation*, Wiley. (Wiley Student Edition).
5. Nag P. and Kudra, M., 1998: *Digital Remote Sensing*, Concept, New Delhi.
6. Rees W. G., 2001: *Physical Principles of Remote Sensing*, Cambridge University Press.
7. Singh R. B. and Murai S., 1998: *Space-informatics for Sustainable Development*, Oxford and IBH Pub.
8. Wolf P. R. and Dewitt B. A., 2000: *Elements of Photogrammetry: With Applications in GIS*, McGraw-Hill.
9. Sarkar, A. (2015) *Practical geography: A systematic approach*. Orient Black Swan Private Ltd., New Delhi
10. Chauniyal, D.D. (2010) *Sudur Samvedanevam Bhogolik Suchana Pranali*, Sharda Pustak Bhawan, Allahabad

DSE1T. Population Geography (Paper Code - GEOHDS1)

COURSE OUTCOMES

After the completion of course, the students will have ability to: i) Learn the role of demography and population studies as a distinct fields of human geography ii) Have sound knowledge of key concept, different components of population along with its drivers iii) Examine population dynamics and characteristic with contemporary issues

1. Defining the Field – Nature and Scope; Sources of Data with special reference to India (Census, Vital Statistics and NSS).
2. Population Size, Distribution and Growth – Determinants and Patterns; Theories of Growth – Malthusian Theory and Demographic Transition Theory.
3. Population Dynamics: Fertility, Mortality and Migration – Measures, Determinants and Implications.
4. Population Composition and Characteristics – Age-Sex Composition; Rural and Urban Composition; Literacy.
5. Contemporary Issues – Ageing of Population; Declining Sex Ratio; HIV/AIDS.

Reading List

1. Barrett H. R., 1995: *Population Geography*, Oliver and Boyd.
2. Bhende A. and Kanitkar T., 2000: *Principles of Population Studies*, Himalaya Publishing House.
3. Chandna R. C. and Sidhu M. S., 1980: *An Introduction to Population Geography*, Kalyani Publishers.
4. Clarke J. I., 1965: *Population Geography*, Pergamon Press, Oxford.
5. Jones, H. R., 2000: *Population Geography*, 3rd ed. Paul Chapman, London.
6. Lutz W., Warren C. S. and Scherbov S., 2004: *The End of the World Population Growth in the 21st Century*, Earthscan
7. Newbold K. B., 2009: *Population Geography: Tools and Issues*, Rowman and Littlefield Publishers.
8. Pacione M., 1986: *Population Geography: Progress and Prospect*, Taylor and Francis.
9. Wilson M. G. A., 1968: *Population Geography*, Nelson.
10. Panda B P (1988): *Janasankya Bhugol*, M P Hindi Granth Academy, Bhopal
11. Maurya S D (2009) *Jansankya Bhugol*, Sharda Putak Bhawan, Allahabad
12. Chandna, R C (2006), *Jansankhya Bhugol*, Kalyani Publishers, Delhi

DSE2T. Urban Geography (Paper Code - GEOHDS2)

COURSE OUTCOMES

After the completion of course, the students will have ability to: i) Understand the fundamentals and patterns of urbanization process ii) Learn the functional classification of cities and Central Place Theory iii) Know contemporary problems of Delhi, Mumbai, Kolkata and Chennai

1. Urban geography: Introduction, nature and scope
2. Patterns of Urbanisation in developed and developing countries
3. Functional classification of cities: Quantitative and Qualitative Methods
4. Urban Issues: problems of housing, slums, civic amenities (water and transport)
5. Case studies of Delhi, Mumbai, Kolkata, and Chennai with reference to Land use and Urban Issues

Reading List

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

B. SC. (HONOURS) GEOGRAPHY CBCS SYLLABUS

W.E.F. SESSION 2018-19



SEMESTER-VI

**DEPARTMENT OF GEOGRAPHY
PANSKURA BANAMALI COLLEGE (AUTONOMOUS)
PURBA MEDINIPUR-721152**

SEM	CORE COURSE	Ability Enhancement	Skill Enhancement	Elective: Discipline	Elective: Generic (GE)
		Compulsory Course (AECC)	Course (SEC)	Specific DSE	(Optional)
VI	Evolution of Geographical Thought			Political Geography	
	Disaster Management based Field Project			Hydrology and Oceanography	

SEM	CORE COURSE						Ability Enhancement	Skill Enhancement Course	Elective: Discipline Specific						Elective: Generic (GE)	SEM TOTAL
	CC	TR	PR	CIA	CAN	T			CC	TR	PR	CIA	CAN	T		
VI	C13	60		10	5	75		DSE3	60		10	5	75		300	
	C14	40	20	10	5	75		DSE4	60		10	5	75			

C13T. Evolution of Geographical Thought (Paper Code - GEOHCC13)

COURSE OBJECTIVES

- ❖ To understand the evolution of geographical thought.
 - ❖ To know the concept geographical thought and their shifting views of pre-modern to post-modern period.
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1. Paradigms in Geography
2. Pre-Modern – Early Origins of Geographical Thinking with reference to the Classical and Medieval Philosophies.
3. Modern – Evolution of Geographical Thinking and Disciplinary Trends in Germany, France, Britain, United States of America.
4. Debates – Environmental Determinism and Possibilism, Systematic and Regional, Ideographic and Nomeothetic.
5. Trends – Quantitative Revolution and its Impact, Behaviouralism, Systems Approach, Radicalism, Feminism; Towards Post Modernism – Changing Concept of Space in Geography, Future of Geography.

COURSE OUTCOMES

Form this course students can understand concept the evolution of geographical thought. They concern about the pre-modern philosophical views and their shifting towards modern to post-modern period. They can understand the trend and debates in geographical thought and views.

Reading List

1. Arentsen M., Stam R. and Thuijjs R., 2000: *Post-modern Approaches to Space*, ebook.
2. Bhat, L.S. (2009) *Geography in India (Selected Themes)*. Pearson
3. Bonnett A., 2008: *What is Geography?* Sage.
4. Dikshit R. D., 1997: *Geographical Thought: A Contextual History of Ideas*, Prentice–Hall India.
5. Hartshone R., 1959: *Perspectives of Nature of Geography*, Rand MacNally and Co.
6. Holt-Jensen A., 2011: *Geography: History and Its Concepts: A Students Guide*, SAGE.
7. Johnston R. J., (Ed.): *Dictionary of Human Geography*, Routledge.
8. Johnston R. J., 1997: *Geography and Geographers, Anglo-American Human Geography since 1945*, Arnold, London.

9. Kapur A., 2001: *Indian Geography Voice of Concern*, Concept Publications.
10. Martin Geoffrey J., 2005: *All Possible Worlds: A History of Geographical Ideas*, Oxford.
11. Soja, Edward 1989. *Post-modern Geographies*, Verso, London. Reprinted 1997: Rawat Publ., Jaipur and New Delhi.

C14T. Disaster Management based Field Project Work (Practical)

(Paper Code - GEOHCC14)

COURSE OBJECTIVES

- ✪ To developed the ability to do any field and project work regarding disaster management like flood, drought, cyclone etc.
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The Project Report based on any two fields-based case studies (seven days each) among following disasters:

1. Flood
2. Drought
3. Cyclone and Hailstorms
4. Earthquake
5. Landslides
6. Coastal
7. Human Induced Disasters: Fire Hazards, Chemical, Industrial accidents

COURSE OUTCOMES

Form this course students can prepare a project thesis on the basis of their understanding, field work and data analysis. Therefore, they can helpful for societal development.

C14P. Disaster Management based Field Project Work (Field Project Work)

Practical Record

- a) Each student will prepare the report based on primary and secondary data collected during field work.
- b) The duration of the field work should not exceed 10 days.
- c) The word count of the report should be about **8000 to 12,000** excluding figures, tables, photographs, maps, references and appendices.
- d) One copy of the report on A 4 size paper should be submitted in soft binding.

Reading List

1. Government of India. (1997) Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India.
2. Kapur, A. (2010) Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi.
3. Modh, S. (2010) Managing Natural Disaster: Hydrological, Marine and Geological Disasters, Macmillan, Delhi.
4. Singh, R.B. (2005) Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi. Chapter 1, 2 and 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", 2007. Publisher-I.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi, India (www.ikbooks.com).

DSE3T. Political Geography (Paper Code - GEOHDS3)

COURSE OUTCOMES

After the completion of course, the students will have ability to: i) Learn the concept of nation and state and geopolitical theories ii) Understand the different dimensions of electoral geography and resource conflicts iii) Have sound knowledge of politics of displacement, focusing on dams and SEZ

1. Introduction: Concepts, Nature and Scope.
2. State, Nation and Nation State – Concept of Nation and State, Attributes of State – Frontiers, Boundaries, Shape, Size, Territory and Sovereignty, Concept of Nation State; Geopolitics; Theories (Heartland and Rimland)
3. Electoral Geography – Geography of Voting, Geographic Influences on voting pattern, Geography of Representation, Gerrymandering.
4. Political Geography of Resource Conflicts – Water Sharing Disputes, Disputes and Conflicts Related to Forest Rights and Minerals.
5. Politics of Displacement: Issues of relief, compensation and rehabilitation: with reference to Dams and Special Economic Zones

Reading List

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 .
8. Mathur H M and M MCernea (eds.) *Development, Displacement and Resettlement – Focus on Asian Experience*, Vikas, Delhi
9. Painter J. and Jeffrey A., 2009: *Political Geography*, Sage Publications.
10. Taylor P. and Flint C., 2000: *Political Geography*, Pearson Education.
11. Verma M K (2004): *Development, Displacement and Resettlement*, Rawat Publications, Delhi
12. Hodder Dick, Sarah J Llyod and Keith S McLachlan (1998), *Land Locked States of Africa and Asia* (vo.2), Frank Cass

DSE4T. Hydrology and Oceanography (Paper Code – GEOHDS4)

COURSE OUTCOMES

After the completion of course, the students will have ability to: i) Understand the basic components of hydrological cycle and comprehend practices of integrated watershed management. ii) Evaluate the water balancing and river basin and water disputes, iii) Study the soil as a basic resource, focusing its distribution, problems and management.

1. Hydrological Cycle: Systems approach in hydrology, human impact on the hydrological cycle; Precipitation, interception, evaporation, evapo-transpiration, infiltration, ground-water, run off and over land flow; Hydrological input and output.

2. River Basin and Problems of Regional Hydrology: Characteristics of river basins, basin surface run-off, measurement of river discharge; floods and droughts.
3. Ocean Floor Topography and Oceanic Movements – Waves, Currents and Tides.
4. Ocean Salinity and Temperature – Distribution and Determinants.
5. Coral Reefs and Marine Deposits and Ocean Resources: Types and Theories of Origin; Biotic, Mineral.

Reading List

1. Andrew. D. ward and Stanley, Trimble (2004): Environmental Hydrology, 2nd edition, Lewis Publishers, CRC Press.
2. Karanth, K.R., 1988: Ground Water: Exploration, Assessment and Development, Tata- McGraw Hill, New Delhi.
3. Ramaswamy, C. (1985): Review of floods in India during the past 75 years: A Perspective. Indian National Science Academy, New Delhi.
4. Rao, K.L., 1982: India's Water Wealth 2nd edition, Orient Longman, Delhi,
5. Singh, Vijay P. (1995): Environmental Hydrology. Kluwar Academic Publications, The Netherlands.
6. Anikouchine W. A. and Sternberg R. W., 1973: *The World Oceans: An Introduction to Oceanography*, Prentice-Hall.
7. Garrison T., 1998: *Oceanography*, Wordsworth Company, Belmont.
8. Kershaw S., 2000: *Oceanography: An Earth Science Perspective*, Stanley Thornes, UK.
9. Pinet P. R., 2008: *Invitation to Oceanography* (Fifth Edition), Jones and Barlett Publishers, USA, UK and Canada.
10. Sharma R. C. and Vatal M., 1980: *Oceanography for Geographers*, Chaitanya Publishing House, Allahabad
11. Sverdrup K. A. and Armbrust, E. V., 2008: *An Introduction to the World Ocean*, McGraw Hill, Boston.
12. Singh, M., Singh, R.B. and Hassan, M.I. (Eds.) (2014) Landscape ecology and water management. Proceedings of IGU Rohtak Conference, Volume 2. Advances in Geographical and Environmental Studies, Springer