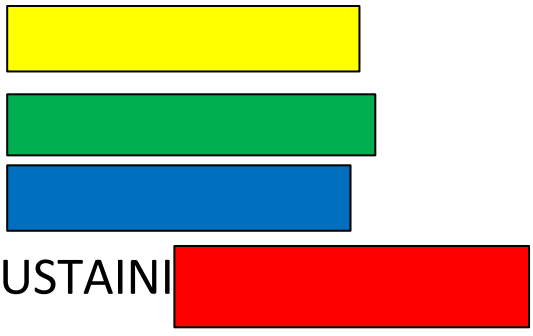
CRITERIA 1.1.3

Different UG And PG Programme, Sample of Courses With Highlight On Ethics / Gender / Human Values / Environment And Sustainability Aspects Is Presented.

Programme: B.A GEOGRAPHY

1. ETHICS
2. GENDER
3. HUMAN VALUES
4. ENVIRONMENT AND SUSTAINI



Netaji Subhas University

Pokhari, Bhilai Pahari, Jamshedpur

B.A GEOGRAPHY (HONOURS)

UNDER GRADUATE PROGRAMME

DEPARTMENT OF GEOGRAPHY

PO, PSO &CO WITH THE DETAILED SYLLABUS

Head
Department of Geography
Netaji Subhas University

NETAJI SUBHAS UNIVERSITY JAMSHEDPUR

Dean Academics
Netaji Subhas University
Jamshedpur, Jharkhand

Under Graduate B.A.(Hons.) Geography

PROGRAMME OUTCOMES

The programme outcomes includes:

1.**Basic Concept:** The fundamental concepts and philosophical foundation of each course need to be discussed.

2. Understanding Landscape: An understanding of landscape at different levels needs to be discussed and understood for a thorough knowledge of spatial dimensions.

3. Understanding Ecosystem Structure and Potential: To comprehend the dynamic dimensions of human and ecosystem relationships.

4. Human Perception and Behaviour: Learning human perception and behaviour to acquire the geographical knowledge evolved over time, is essential to improve decision making process.

5. Identification of Critical Problems and Issues: Detection and identification of the critical problems and spatial issues are essential for sustainable development.

6. Field Based Knowledge: Field based knowledge is essential to understand the ground reality, spatial patterns and processes.

7. Spatial Tools and Techniques: The basics and applications of spatial tools and techniques are essential to make the studies more scientific and applicable.

8. Statistical Techniques: Use of statistical tools and techniques is essential for precise and objective geographic analysis and interpretation of complex phenomena.

9. Applied Dimensions: Identification of the critical problems and spatial issues form the core of the modern geography for various applications and decision making, including Resources, Environment & Disaster Management, Land Use Planning, and Urban and Regional Development together with Climate Change Mitigation and Adaptation, etc.

10. Case Study based Analysis: There is a need to understand the specificities of the problems in specific areas for their in depth comprehension and solution. The case studies are essential, especially to find out the solutions to the lagging regions for their solutions based on first hand information.

11. Public Policy and Management: Spatial aspects and dimensions are the integral

parts in the policy making for sustainable regional development. Geographical knowledge needs to be inculcated for application and solutions of the various local, regional and national problems.

12. Communication Skills: Communication through models, maps, images and other geographical tools form the sound base for the dissemination of geographical information.

PROGRAMME SPECIFIC OUTCOMES

PSO 1 - Student will gain the knowledge of physical geography. They will gather knowledge about the fundamental concepts of Geography and will have a general understanding about the geomorphologic and geotectonic process and formation. Imbibing knowledge, skills and holistic understanding of the Earth, atmosphere, oceans and the planet through analysis of land form development; crustal mobility and tectonics, climate change.

PSO 2 – Associating landforms with structure and process; establishing man-environment relationships ;and exploring the place and role of Geography vis-a-sis other social and earth sciences. Students can easily correlate the knowledge of physical geography with the human geography. They will analyse the problems of physical as well as cultural environments of both rural and urban areas.

PSO 3 – Understanding the functioning of global economies, geopolitics, global geostrategic views and functioning of political systems.

PSO 4 – Developing a sustainable approach towards the ecosystem and the biosphere with a view to conserve natural systems and maintain ecological balance.

PSO 5–The physical environment, human societies and local and/or global economic systems are integrated to the principles of sustainable development

PSO 6 – Inculcating a tolerant mindset and attitude towards the vast socio-cultural diversity of India by studying and discussing contemporary concepts of social and cultural geography. Explaining and analyzing the regional diversity of India through interpretation of natural and planning regions.

PSO 7 – Analyzing the differential patterns of the human habitation of the Earth, through studies of human settlements and population dynamics. Understanding and accounting for regional disparities, poverty, unemployment and the impacts of globalization

PSO 8 – Understanding the history of the subject; over viewing ancient and contemporary geographical thought and its relationship with modern concepts of empiricism, positivism, radicalism, behaviourism, idealism etc.

PSO 9 – Sensitization and awareness about the hazards and disasters to which the sub-continentis

vulnerable; and their management.

PSO 10 –As a student of the Course they will enrich their observation power through field experience and in future this will be helpful for identifying the socio- environmental problems of their community.

PSO 11 – Training in practical techniques of mapping, cartography, software, interpretation of maps, photographs and images etc; so as to understand the spatial variation of phenomena on the Earth's surface. They will learn how to prepare map based on GIS by using the modern geographical mapmaking techniques.

B.A.(Hons.)Geography

Course Summary

Types Of Course	No. of Courses
Core Course	**14**
Ability Enhancement course	**02**
Skill Enhancement course	**02**
Project & Internship	**0**
Elective course	**08**
Total:	**26**
Non Gradial Course:	**01**

Semester wise Course Summary

Semester	Core Course	Ability Enhancement course	Skill Enhancement course	Generic Elective course	Discipline Specific Elective	Total
Sem-I	2	1	-	1	-	4
Sem-II	2	1	-	1	-	4
Sem-III	3	-	1	1	-	5
Sem-IV	3	-	1	1	-	5
Sem-V	2	-	-	-	2	4
Sem-VI	2	-	-	-	2	4
TOTAL						26

Course Structure for B.A Hons. Geography Program

Hons. / Core Subject CC(14 papers)	Discipline Specific Elective Subject DSE (4 Papers)	Skill Enhancement Course SEC (2 Papers)	Generic Elective (GE) (4 papers)	Compulsory Course AECC (2 Papers)	Total Papers (CC+DSE+SEC +GE+AECC)
Geography	DSE in Geography	GIS and RS	GE in Geography	English Communication and EVS	26 papers

Total Marks for each Semester

Sl. No	Semester	Total Marks
1	I	350
2	II	350
3	III	450
4	IV	450
5	V	400
6	VI	400
Grand Total		2400

Generic Electives

Sem	Code	Geography Papers
I	GE-1	Disaster Management
II	GE-2	Regional Development
III	GE-3	Rural Development
IV	GE-4	Sustainable Development

List of DSE papers

SEM	CORE PAPERCODE	NAME OF THE PAPER
V	DSE 1	PopulationGeography
	DSE 2	Urban Geography
VI	DSE 3	Political Geography
	DSE 4	Social Geography

List of Core Papers

SEM	CORE PAPER CODE	NAME OF THE COREPAPERS
I	C1	Geomorphology
	C2	Cartographic Techniques(Practical)
II	C3	Human Geography
	C4	Thematic Cartography(Practical)
III	C5	Climatology
	C6	Statistical Methods inGeography (Practical)
	C7	Geography of India
IV	C8	Economic Geography
	C9	Environmental Geography
	C10	Field Work and ResearchMethodology (Practical)
V	C11	Regional Planning andDevelopment
	C12	Remote Sensing and GIS(Practical)
VI	C13	Evolution of GeographicalThought
	C14	Oceanography

Semester-I

S. No	Subject Code	Subject	Credit				Examination Marks Detail			
			L	T	P	Total	External Exam	Internal Exam	Practical	Total
1	CC1	Geomorphology	5	1	0	6	70	30	-	100
2	CC2	Cartographic Techniques (Practical)	0	0	6	6	50	30	20	100
3	GE-1	Disaster Management(Practical)	4	1	1	6	50	30	20	100
4	AECC-1	English Communication	1	1	0	2	35	15	-	50
Total			10	3	7	20				350

Semester-II

S. No.	Subject Code	Subject	Credit				Examination Marks Detail			
			L	T	P	Total	External Exam	Internal Exam	Practical	Total
1	CC-3	Human Geography	5	1	0	6	70	30	-	100
2	CC-4	Thematic Cartography (Practical)	0	0	6	6	50	30	20	100
3	GE-2	Regional Development	5	1	0	6	70	30	-	100
4	AECC-1	Environmental Science (EVS)	1	1	0	2	35	15	-	50
Total			11	3	6	20				350

Semester-III

S. No.	Subject Code	Subject	Credit				Examination Marks Detail			
			L	T	P	Total	External Exam	Internal Exam	Practical	Total
1	CC-5	Climatology	5	1	0	6	70	30	-	100
2	CC-6	Statistical Methods In Geography (Practical)	0	0	6	6	50	30	20	100
3	CC-7	Geography Of India	5	1	0	6	70	30	-	100
4	GE-3	Rural Development	5	1	0	6	70	30	-	100
5	SEC-1	Remote Sensing and GIS (Practical)	0	0	2	2	25	15	10	50
Total			15	3	8	26				450

Semester-IV

S. No.	Subject Code	Subject	Credit				Examination Marks Detail			
			L	T	P	Total	External Exam	Internal Exam	Practical	Total
1	CC-8	Economic Geography	5	1	0	6	70	30	-	100
2	CC-9	Environmental Geography	0	0	6	6	50	30	20	100
3	CC-10	Field Work and Research Methodology (Practical)	5	1	0	6	70	30	-	100
4	GE-4	Sustainable Development	5	1	0	6	70	30	-	100
5	SEC-2	Geographical Information System (Practical)(Practical)	0	0	2	2	25	15	10	50
Total			15	3	8	26				450

Semester-V

S. No.	Subject Code	Subject	Credit				Examination Marks Detail			
			L	T	P	Total	External Exam	Internal Exam	Practical	Total
1	CC-11	Regional Planning and Development	5	1	0	6	70	30	-	100
2	CC-12	Remote Sensing and GIS (Practical)	0	0	6	6	50	30	20	100
3	DSE-1	Population Geography	5	1	0	6	70	30	-	100
4	DSE-2	Urban Geography	5	1	0	6	70	30	-	100
Total			15	3	6	24				400

Semester-VI

S. No.	Subject Code	Subject	Credit				Examination Marks Detail			
			L	T	P	Total	External Exam	Internal Exam	Practical	Total
1	CC-11	Regional Planning and Development	5	1	0	6	70	30	-	100
2	CC-12	Remote Sensing and GIS (Practical)	0	0	6	6	50	30	20	100
3	DSE-1	Population Geography	5	1	0	6	70	30	-	100
4	DSE-2	Urban Geography	5	1	0	6	70	30	-	100
Total			15	3	6	24				400

B.A.(Honours) Geography
Semester-1

Core Course CC-1
Geomorphology (100 Marks-6Credits)

Course Objective:

This course provides students with an understanding of the relationship between landscape forms and the geomorphic processes that shape them, and critically evaluate and connect information about geomorphic processes

Course Outcome:

CO1.1 Understand the functioning of Earth systems in real time and analyze how the natural and anthropogenic operating factors affect the development of landforms
CO1.2 Distinguish between the mechanisms that control these processes
CO1.3 Assess the roles of structure, stage and time in shaping the landforms, interpret geomorphologic maps and apply the knowledge in geographical research.

Course Contents:

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).
2. Evolution of Landforms(Erosional and Depositional):Fluvial, Karst, Aeolian, Glacial, and Coastal.

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. KaleV.S.andGuptaA.,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 Introductionto physical Geology*,4thEdition, John Wiley and Sons
9. ThornburyW.D.,1968:*PrinciplesofGeomorphology*,Wiley.
10. Gautam, A(2010):*Bhautik Bhugol*, Rastogi Punlications, Meerut
11. Tikkaa, R N(1989):*Bhautik Bhugolka Swaroop*, Kedarnath Ram Nath, Meerut
12. Singh, S(2009):*Bhautik Bhugolka Swaroop*, Prayag Pustak, Allahabad

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behavior	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
GEOMORPHOLOGY		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	CC1.1	3	3	3	2		3				3	1	
	CC1.2	3	3	1	1	3	1				2	1	
	CC1.3	3	3	2	1	3	3	3	3	1	3	1	2
	Average	3	3	2	1.3	2	2.3	1	1	0.33	2.6	1	0.66

Core Course CC-2
Cartographic Techniques(Practical) (100 Marks-6Credits)
Course Objective:
Create professional and aesthetically pleasing maps through thoughtful application of cartographic conventions and develop an understanding of the concepts regarding scale, map projections to suit map purposes.

Course Outcome:
CC2.1 Read and prepare maps.
CC2.2 Comprehend locational and spatial aspects of the earth surface.
CC2.3 Use and importance of maps for regional development and decision making.

Course Contents:

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; Graphical 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 Profiles.
5. Slope Analysis–Went worth's method.

Practical Record: A Project File in pencil, comprising on 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. MishraR.P.andRamesh,A.,1989:*Fundamentals of Cartography*, Concept, New Delhi.
4. Monkhouse F.J. and WilkinsonH.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. RobinsonA.H.,2009:*Element of Cartography*, John Wiley and Sons, New York.
7. Sharma J.P.,2010:*Prayogic Bhugol*, 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: Asystematic approach. Orient Black Swan Private Ltd., New Delhi
10. Singh R L & Rana P B Singh(1991) Prayogtmak Bhugolke Mool Tatva, Kalyani Publishers, New Delhi
11. Sharma,J P (2010) Prayogtmak Bhugolki Rooprekha, Rastogi Publications, Meerut
12. Singh, RL & Dutta, PK(2012) Prayogatmak Bhugol, Central Book Depot, Allahabad

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behavior	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
CARTOGRAPHIC TECHIQUES		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	CC2.1	3	2				1	1					
	CC2.2	3	3			2	3	3	3		2		3
	CC2.3	3	3	1	3	3	3		2	3	2	3	3
	Average	3	2.6	0.33	1	1.6	2.3	1.3	1.6	1	1.3	1	2

Generic Electives GE-1

Disaster Management based Project Work (Practical) (100 Marks-6Credits)

Course Objective:

Understanding analysis about the different types of disasters in India. Evaluating the role of institutional frameworks to mitigate the disasters in the country.

Course Outcome:

GE1.1 Gain a perspective of disasters and various dimensions of disaster management.
GE1.2 Have comprehensive knowledge of various natural and manmade disasters in India.
GE1.3 Examine the response and mitigation measures of disasters.

GE1.4 Write a field work based report on Disaster Management to minimize the disaster risk/ Risk from Disaster

Course Contents:

The Project Report based on any two field based case studies among following disasters and one disaster preparedness plan of respective college or locality:

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

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
and3
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. PublisherI.K. International Pvt. Ltd. S-25, Green Park Extension, Uphaar Cinema Market, New Delhi,
India (www.ikbooks.com)

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behavior	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
Disaster Management based Project Work (Practical)		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	GE1.1	3	2		2		3				3		
	GE1.2	3	3	3	3	1	3		1	2	2		3
	GE1.3	3	3	1	3	3	3	1	2	3	2	3	3
	GE1.4	3	3	1	3	3	3	3	2	3	2	3	3
	Average	3	2.75	1.25	2.75	1.75	3	1	1.25	2	2.25	1.5	2.5

Semester-2

Human Geography(100 Marks-6Credits)

Core Course CC-3

Course Objective:

Various dimensions of human geography and cultural landscape. Detailed analysis of population growth and distribution. Understanding of the relationship between population and resource.

Course Outcome:

CC3.1 Know the changing human and cultural landscape at different levels.
CC3.2 Understand patterns and processes of population growth and its implications
CC3.3 Appreciate the nature and quality of human landscapes.

Course Contents:

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. Settlmenets: Types of Rural Settlements; Classification of Urban Settlements; Trends and Patterns of World Urbanization Population-Resource Relationship

Reading List

5. Chandna, R.C.(2010)Population Geography ,Kalyani Publisher.
6. Hassan, M.I.(2005) Population Geography , Rawat Publications, Jaipur
7. Daniel, P. A .and Hopkinson, M .F.(1989)The Geography of Settlement ,Oliver & Boyd, London.
8. Johnston R; Gregory D, Pratt G. etal. (2008)The Dictionary of Human Geography ,Blackwell Publication.
9. Jordan-Bychkovetal.(2006) The Human Mosaic: A Thematic Introduction to Cultural Geography. W.H. Freeman and Company, New York.
10. Kaushik, S. D.(2010)Manav Bhugol, Rastogi Publication, Meerut.
11. Maurya, S .D.(2012)Manav Bhugol, Sharda Pustak Bhawan. Allahabad.
12. Hussain, Majid (2012) Manav Bhugol. Rawat Publications, Jaipur 8

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behavior	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO 1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2
Human Geography	CC3.1	2	3	2	1	3	3	1		3	2	3	
	CC3.2	3		3	3	3			3	3	2	3	2
	CC3.3	1	3	2	3	2	3	1		3	3	3	2
	Average	2	2	2.3	2.3	2.6	2	0.6	1	3	2	3	1.3

Thematic Cartography(Practical) **(100 Marks-6Credits)**

Core Course CC-4

Course Objective:

Create thematic maps through thoughtful application of Cartographic conventions; . Enhance understanding of the concepts regarding thematic mapping techniques .Better understand preparation and interpretation of thematic maps.

Course Outcome:

CC4.1 Explain how maps work, conceptually and technically and will be able to understand science and art of cartography

CC4.2 Recognize the benefits and limitations of Diagrammatic Data Presentation.

CC4.3 Understand and perform interpretation of thematic maps.

Course Contents:

1. Maps–Classification and Types; Principles of Map Design.
2. Diagrammatic Data Presentation–Line, Bar and Circle.
3. Thematic Mapping Techniques –Properties, Uses and Limitations; Areal Data--Choropleth, Dot, Proportional Circles; Point Data – Isopleths.
4. Cartographic Overlays–Point, Line and Areal Data.
5. Thematic Maps– Preparation and Interpretation .Practical Record: A Thematic Atlas should be prepared

Reading List

1. Cuff J.D. and Mattson M.T.,1982: Thematic Maps: Their Design and Production, Methuen Young Books
2. DentB.D.,TorgusonJ.S.,andHolderT.W.,2008: Cartography: Thematic Map Design(6thEdition), Mcgraw-Hill Higher Education
3. GuptaK.K.andTyagiV.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.
5. Sharma J.P.,2010:Prayogic Bhugol, Rastogi Publishers, Meerut.
6. Singh R.L .and Singh R.P. B.,1999: Elements of Practical Geography, Kalyani Publishers.
7. SlocumT.A.,McmasterR.B.andKesslerF.C.,2008:ThematicCartographyandGeovisualization(3rd Edition), Prentice Hall.
8. TynerJ.A.,2010:PrinciplesofMapDesign,TheGuilfordPress.
9. Sarkar, A.(2015)Practical geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi
10. Singh, LR & Singh R(1977): Manchitra or Pryaogatamek Bhugol, Central Book, Depot ,Allahabad12. Bhopal Singh R L and Duttta P K (2012) Prayogatama Bhugol, Central Book Depot, Allahabad

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behavior	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO 1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Thematic Cartography	CC4.1	3	1			1	3	3	3	1	3	2	
	CC4.2	3				2	3	3	3	2	3		
	CC4.3	1	2			2	3	3	3	3	3		3
	Average	2.3	1			1.6	3	3	3	2	3	0.6	1

Regional Development (100 Marks-6Credits)
Generic Electives GE-2

Course Objective:
To focuses on analyzing and promoting the balanced and sustainable development of a specific region, addressing issues like regional disparities, economic growth, and social equity.

Course Outcome:
GE-2.1 Have comprehensive understanding regarding the different regions and application of different models and theories for integrated regional development.
GE-2.1 Appreciate the basics of regional planning methodology and the need for adopting newer models in the planning process.

Course Contents:

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

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO 1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Regional Development	GE2.1	3	3	3		3	3				3	1	3
	GE2.2	3	3	3	3	3	3			3	3	2	3
	Average	3	3	3	1.5	3	3			1.5	3	1.5	3

Head
Department of Geography
Netaji Subhas University

NETAJI SUBHAS UNIVERSITY JAMSHEDPUR

Dean Academics
Netaji Subhas University
Jamshedpur, Jharkhand

Semester-3

Climatology (100 Marks-6Credits)

Core Course CC-5

Course Objective:

Various dimensions of climatology like structure and composition. Detailed analysis of global atmospheric pressure and wind system. Understanding of the concept of oceanic topography

Course Outcome:

CC5.1 Understand the elements of weather and climate and its impacts at different scales.
CC5.2 Comprehend the climatic aspects and its bearing on planet earth.
CC5.3 Understanding the characteristics of climatic regions

Course Contents:

1. Atmospheric Composition and Structure–Variation with Altitude, Latitude and Season.
2. Insolation and Temperature–FactorsandDistribution,HeatBudget,TemperatureInversion.
3. Atmospheric Pressure and Winds –Planetary Winds, Forces affecting Winds, General Circulation, Jet Streams.
4. AtmosphericMoisture–Evaporation,Humidity,Condensation,FogandClouds,PrecipitationTypes, Stability and Instability; Climatic Regions (Koppen)
5. Cyclones–Tropical Cyclones, Extra Tropical Cyclones, Monsoon-Origin and Mechanism.

Reading List

1. Barry R.G. and CarletonA.M.,2001:Synoptic and Dynamic Climatology, Routledge, UK.
2. Barry R.G. and CorleyR.J.,1998:Atmosphere,Weather and Climate, Routledge, New York.
3. Critch field H.J.,1987:GeneralClimatology,Prentice-HallofIndia,NewDelhi
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 HidoreJ.J.,2002:Climatology:An Atmospheric Science, Pearson Education, New Delhi.
6. Trewartha G.T. and HorneL.H.,1980:An Introduction to Climate, McGraw-Hill.
7. Gupta LS (2000): Jalvayu Vigyan, Hindi Madhyam Karyanvay Nidishalya, Delhi Vishwa Vidhyalaya, Delhi
8. Lal, DS(2006):Jalvayu Vigyan, Prayag Pustak Bhavan, Allahabad
9. Vatal, M(1986):Bhautik Bhugol, Central Book Depot, Allahabad
10. Singh, S(2009): Jalvayu Vigyan, Prayag Pustak Bhawan, Allahabad

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behavior	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO 1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Climatology	CC5.1	3	3	3	3	2	2	2	2	3	3	3	3
	CC5.2	2	2	1	2	3	3	2	2	2	3	3	3
	CC5.3	2	2	3	2	3	3	1	2	2	3	3	3
	Average	2.3	2.3	2.3	2.3	1.6	2.5	2	2	2.3	3	3	3

Statistical Methods in Geography(Practical) (100 Marks-6Credits)

Core Course CC-6

Course Objective:

The concept of quantitative information in general and Geographical data in particular. The importance of data analytics. The ways data is collected or data is taken from different sources. The sampling methods' application for data collection purposes. The ways to handle the collected data through classification, tabulation and stigmatization. The data presentation using graphical and diagrammatic ways

Course Outcome:

CC6.1 Understand the basics of data collection and processing for the meaningful outcomes.
CC6.2 Comprehend the representation and interpretation of the results
CC6.3 Put into practice results obtained in representation as well as day-today life.

Course Contents:

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

Class Record:

Each student will submit are record five exercises:

1. Construct a data matrix of about(10x10) with each row representing a natural unit(districts or villages or towns) and about 10 columns of relevant attributes of the areal units.

2. Based on the above able, 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 at tributes, 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:StatisticsinGeography:APractical Approach.
3. Hammond P. and Mc Cullagh P.S.,1978: Quantitative Techniques in Geography: An Introduction, Oxford University Press.
4. KingL.S.,1969:Statistical Analysis in Geography, Prentice-Hall.
5. MahmoodA.,1977:StatisticalMethodsinGeographicalStudies,Concept.
6. PalS.K.,1998:StatisticsforGeoscientists,TataMcGrawHill,NewDelhi.Sarkar,A.(2013) Quantitativegeography:techniquesandpresentations.OrientBlackSwanPrivateLtd., New Delhi
7. SilkJ.,1979:StatisticalConcepts in Geography, Allen and Unwin, London.
8. SpiegelM.R.:Statistics,Schaum'sOutlineSeries.10.YeatesM.,1974:AnIntroductionto Quantitatie Analysis in Human Geography, McGraw Hill, New York. 11. Shinha, Indira (2007) Sankhyiki bhugol. Discovery Publishing House, New Delhi

CO-PO METRICES

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behavior	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Statistical Methods In Geography	CC6.1	3			1	3	2	3	3			3	
	CC6.2	1			2	3	1	3	3		2	3	3
	CC6.3	1			3	3	2	3	3	1	2	3	3
	Average	1.6			2	3	1.6	3	3	0.3	1.3	3	2

Geography Of India (100 Marks-6Credits)

Core Course CC-7

Course Objective:

Various dimensions of the geographical features of India and their spatial distribution. Detailed analysis of economic resources of India . Understanding of regional divisions of India.

Course Outcome:

CC7.1 Understand the physical profile of the country
CC7.2 Study the resource endowment and its spatial distribution and utilization for sustainable development
CC7.3 Synthesize and develop the idea of regional dimensions.

Course Contents:

1. Physical: Physiographic Divisions, soil and vegetation, climate(characteristics and classification)

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. Regionalisati on of India: Physiographic (R.L. Singh),Socio–cultural (Sopher),Economic (Sengupta)

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 Intenational 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. SinghR.L.,1971:India:ARegionalGeography,NationalGeographicalSocietyofIndia.
7. Singh,Jagdish2003:India-AComprehensive&SystematicGeography,GyanodayaPrakashan, Gorakhpur.
8. Spate O. H. K .and Learmonth A.T.A.,1967: India and Pakistan: A General and Regional Geography, Methuen.
9. Tirtha,Ranjit2002: Geography of India, Rawat Publs., 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. Prayag Pustak Bhawan, Allahabad
12. Sharma, T.C.(2013) Economic Geography of India. Rawat Publication, Jaipur

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
Geography Of India													
	CC7.1	3	3	2			3				3		3
	CC7.2	3	3	2	3	3	2			1	3	3	3
	CC7.3	1	3	3	1	3	2		1	1	3	3	3
	Average	2.3	3	2.3	1.3	2	2.3		0.3	0.6	3	2	3

Remote Sensing and GIS(Practical) (50Marks-2Credits)

SEC-1

Course Objective:

To gain knowledge and practical experience in handling satellite images focusing on hands-on experience of image pre-processing, enhancement and classification. Better understand the techniques for the study of land use land cover and urban study.

Course Outcome:

SEC1.1 Appreciate the development and uses of aerial and satellite remote sensing system and navigation satellite systems in India and other nations.

SEC1.2 Understand the basics of EMR and energy interaction in atmosphere and one earth surface features.

Course Contents

1. Remote Sensing and GIS: Definition and Components, Development, Plat forms 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

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 above mentioned 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. Lilles and 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, Mc Graw 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

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO 1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Remote Sensing And Gis	CC12.1	3	3	2	2	3	3	3	2	3	3	3	3
	CC12.2	3	3	3	1	3	3	3	1	3	3	3	3
	CC12.3	3	3	3	3	3	3	3	1	3	3	3	3
	Average	3	3	2.6	2	3	3	3	1.3	3	3	3	3

Rural Development (100 Marks-6Credits)

Generic Elective GE-3

Course Objective:

The main objectives of this course is to give students an insight into the concepts , approaches and planning process related to rural development in India. The students will learn the rural economic base, rural development process and provision of services in rural areas.

Course Outcome:

GE3.1 Appreciate the concepts, needs and various approaches to rural development.

GE3.2 Understand the strong economic bases of rural areas of India.

GE3.3 Appreciate the area based and target group based approaches and provision of services to rural development

Course Contents:

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: Panchayatiraj 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, Rawat Publs., 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 – Leaning
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

CO-PO METRICS

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		PO 1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Rural Development	GE3.1	3	3	3		3	3				3	1	3
	GE3.2	3	3	3	3	3	3			3	3	2	3
	GE3.3	3	3	3	3	3	3			3	3	2	3
	Average	3	3	3	2	3	3			2	3	1.5	3

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Semester-4

Economic Geography(100 Marks-6Credits)

Core Course CC-8

Course Objective:

To understand the concept and spatial distribution of economic activities in the world. To analyse the factors affecting the economics activity focusing on Von Thunen and Weber theory. To describe in the details the regionalization of different economic activities.

Course Outcome

CC8.1 Distinguish different types of economic activities and their utilities
CC8.2 Appreciate the factors responsible for the location and distribution of activities.
CC8.3 Examine the significance and relevance of the origin relation to the location of different economic activities

Course Contents:

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).
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.

Reading List

1. Alexander J.W.,1963:Economic Geography, Prentice- Hall Inc., Englewood Cliffs, New Jersey.
2. CoeN.M.,KellyP.F.andYeungH.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. WheelerJ.O.,1998:EconomicGeography,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

CO-PO METRICS

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Economic Geography	CC8.1	3	3	2	3		3	3			3	3	3
	CC8.2	1	3	3	3	2	3	2		3	2	3	3
	CC8.3	2	3	3	1		2	3	1	1	3	3	1
	Average	2	3	2.6	1.3	0.6	2.6	2.6	0.3	1.3	2.6	3	2.3

Environmental Geography (100 Marks-6Credits)

Core Course CC-9

Course Objective:

Various dimensions of environment and natural resource management. Detailed analysis of concept, structure and functions. Understanding of the concept of appraisal and conservation of Environment and Natural Resources

Course Outcome:

CC9.1 Understand the fundamental concepts of coupled human-environment system
CC9.2 Assess the vulnerability, risk and resilience issues associated with the human environment system.
CC9.3 Develop possible solutions for addressing the contemporary sustainability challenges.
CC9.4 Learn the various adaptation and mitigation for reducing the impacts of climate change and national action plan.

Course Contents:

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

Reading List

1. Chandna R.C.,2002: Environmental Geography, Kalyani, Ludhiana.
2. Cunninghum W.P. and CunninghumM.A.,2004: Principals of Environmental Science: Inquiry and Applications, Tata Macgraw Hill, New Delhi.
3. GoudieA.,2001:TheNature of the Environment ,Black well, 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 Brooks Cole ,Singapore.
6. MoEF, 2006:National Environmental Policy-2006,MinistryofEnvironmentandForests,GovernmentofIndia.
7. Singh, R.B. and Hietala, R.(Eds.)(2014)Livelihood security in North western Himalaya: Case studies from changing socio-economic environments in Himachal Pradesh, India. Advances in Geographical and Environmental Studies, Springer
8. Odum,E.P.etal,2005:FundamentalsofEcology,CeneageLearningIndia.
9. SinghS.,1997:EnvironmentalGeography,PrayagPustakBhawan.Allahabad.
10. UNEP,2007: GlobalEnvironmentOutlook:GEO4:EnvironmentForDevelopment,UnitedNationsEnvironment 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)EcologicalTechniquesandApproachestoVulnerableEnvironment,NewDelhi,Oxford &IBH Pub..
13. Singh,Savindra2001.ParyavaranBhugol,PrayagPustakBhawan,Allahabad.(inHindi)

CO-PO METRICS

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		PO 1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Environmental Geography	CC9.1	3	2	3	3	3	3				3	2	3
	CC9.2	3	3	3	3	3	3	3	2	2	3	3	3
	CC9.3	3	3	3	3	3	3	3	2	3	3	3	3
	CC9.4	3	3	3	3	3	3	3	3	2	2	3	3
	Average	4	3.6	4	4	4	4	2.5	1.75	1.75	2.75	2.8	4

Field Work and Research Methodology(Practical) (100 Marks-6Credits)

Core Course CC-10

Course Objective:

Various dimensions of field work and its role in geographical studies. Detailed analysis of different

field techniques. Understanding of the report writing and field tools.

Course Outcome:

CC10.1 Conduct proper field work for the collection of primary data to bring out grassroots realities.

CC10.2 Make use of proper tools and surveying methods for measurement in context of collection and processing of data.

CC10.3 Prepare a report based on field data.

Course Contents:

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.

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 to12,000 excluding figures, tables, photographs, maps, references and appendices.
4. One copy of the report on A4 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.TheArtandScienceofGeography:IntegratedReadings.Prentice-HallofIndia,NewDelhi.
3. EvansM.,1988: “Participant Observation: The Researcheras Research Tool” in Qualitative Methods in Human Geography, eds. J. Eyles and D. Smith, Polity.
4. Mukherjee,Neela1993.ParticipatoryRuralAppraisal:MethodologyandApplication.ConceptPubls .Co.,New Delhi.
5. Mukherjee,Neela2002.ParticipatoryLearningandAction:with100FieldMethods.ConceptPubls.Co.,NewDelhi
6. RobinsonA.,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 Field work” The Geographical Review91 :1-2(2001).
8. 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.

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		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Field Work Research Methodology	CC10.1	3	3	3	3	2	3	2	3	3	3	3	3
	CC10.2	3	3	3	2	3	3	2	3	3	3	3	3
	CC10.3	3	2	3	3	3	3	3	3	3	3	3	3
	Average	3	2.6	3	2.6	2.6	3	2.3	3	3	3	3	3

Geographical Information System (Practical) (50 Marks-2Credits)

SEC-2

Course Objective:

The course aim is to give basic understanding of concept of GIS, its definitions and components. To gain working experience geographical data collection using GPS. To do analysis and application of geographical data in land use, urban sprawl, and forest study.

Course Outcome:

SEC2.1 Appreciate the basic concepts and historical development of geographical information technology

SEC2.2 Acquire knowledge on data structure, interpolation, modelling, functions and working of geographical information technology

SEC2.3 Apply the geographical information technology for sustainable development of the nation

Course Contents:

1. Geographical Information System(GIS):Definition and Components.
2. Global Positioning System(GPS)–Principles and Uses; DGPS.
3. GIS Data Structures: Types(spatial and Non-spatial),Raster and Vector Data Structure.
4. GIS Data Analysis :Input; Geo-Referencing ;Editing, Output and Query; Overlays.
5. Application of GIS: Land Use Mapping; Urban Sprawl Analysis; Forests Monitoring.

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

Reading List

1. Bhatta,B.(2010)AnalysisofUrbanGrowthandSprawlfromRemoteSensing,Springer,BerlinHeidelberg.41
2. Burrough,P.A.,andMcDonnell,R.A.(2000)PrinciplesofGeographicalInformationSystem-SpatialInformation System and Geo-statistics. Oxford University Press
3. Chauniyal, D.D.(2010)Sudur Samvedanevam Bhogolik Suchana Pranali, Sharda Pustak Bhawan, Allahabad
4. Heywoods, I., Cornelius, Sand Carver, S.(2006)An Introduction to Geographical Infromation system. Prentice Hall .Jha, M.M. and Singh, R.B.(2008) Land Use :Reflection on Spatial Informatics Agriculture and Development, New Delhi: Concept.
5. Nag, P.(2008) Introduction to GIS, Concept India, New Delhi.
6. Sarkar, A.(2015)Practical geography :Asystematic approach. Orient Black Swan Private Ltd., New Delhi
7. Singh, R. B. and Murai, S.(1998)Space Informatics for Sustainable Development, Oxford and IBH, New Delhi.

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Geographical Information System GIS	SEC2.1	3	3	2	2	3	3	3	2	3	3	3	3
	SEC2.2	3	3	3	1	3	3	3	1	3	3	3	3
	SEC2.3	3	3	3	3	3	3	3	1	3	3	3	3
	Average	3	3	2.6	2	3	3	3	1.3	3	3	3	3

GE-4

Sustainable Development (100 Marks-6Credits)

Course Objective:

To learn the concepts related with Sustainable development and its role in reducing poverty and inequality in the world. To get updated knowledge of Millennium Development Goals & Sustainable Development Goals. To critically evaluate the global policies and programmes for sustainable development.

Course Outcome:

GE4.1 Identify notable lagging regions and solutions for their overall development

GE4.2 Select appropriate indicators for the measurement of socio-economic regional development.

GE4.3 Capable of diagnosing the regional issues and the necessity to adopt suitable SDGs in India.

Course Contents:

1. Sustainable Development: Definition, Components, Limitations and Historical Background.
2. The Millennium Development Goals: National Strategies and International Experiences
3. Sustainable Regional Development: Need and examples from different Ecosystems.
4. Inclusive Development: Education, Health; Climate Change: The role of higher education in sustainable development; The human right to health; Poverty and disease; The Challenges of Universal Health Coverage; Policies and Global Cooperation for Climate Change
5. Sustainable Development Policies and Programmes: The proposal for SDGs at Rio+20; Illustrative SDGs; Goal-Based Development; Financing for Sustainable Development; Principles of Good Governance; National Environmental Policy, CDM.

Reading List

1. Agyeman, Julian, Robert D. Bullard and Bob Evans (Eds.) (2003) Just Sustainabilities: Development in an Unequal World. London: Earthscan. (Introduction and conclusion.).
2. Ayers, Jessica and David Dodman (2010) "Climate change adaptation and development I: the state of the debate". Progress in Development Studies 10 (2): 161-168.
3. Baker, Susan (2006) Sustainable Development. Milton Park, Abingdon, Oxon; New York, N.Y.: Routledge. (Chapter 2, "The concept of sustainable development").
4. Brosius, Peter (1997) "Endangered forest, endangered people: Environmentalist representations of indigenous knowledge", Human Ecology 25: 47-69.
5. Lohman, Larry (2003) "Re-imagining the population debate". Corner House Briefing 28.
6. Martínez-Alier, Joan et al (2010) "Sustainable de-growth: Mapping the context, criticisms and future prospects of an emergent paradigm" Ecological Economics 69: 1741-1747.
7. Merchant, Carolyn (Ed.) (1994) Ecology. Atlantic Highlands, N.J: Humanities Press. (Introduction, pp 1- 25.)
8. Osorio, Leonardo et al (2005) "Debates on sustainable development: towards a holistic view of reality". Environment, Development and Sustainability 7: 501-518.
9. Robbins, Paul (2004) Political Ecology: A Critical Introduction. Blackwell Publishing.
10. 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.

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
Sustainable Development		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	CC9.1	3	2	3	3	3	3			3	3	2	3
	CC9.2	3	3	3	3	3	3	3	2	3	3	3	3
	CC9.3	3	3	3	3	3	3	3	3	3	3	3	3
	Average	3	2.6	3	3	3	3	2	1.6	3	3	2.6	3

Semester-5

Regional Planning and Development (100 Marks-6Credits)

Core Course CC-11
Course Objective:
To understand the concept of Region and Regional Planning. To familiarize the students with Theories and Models for Regional Planning. To develop understanding about concept of Development, Sustainable Development and different programmes and policies

Course Outcome:
CC11.1 Have comprehensive understanding regarding the different regions and application of different models and theories for integrated regional development.
CC11.2 Appreciate the basics of regional planning methodology and the need for adopting newer models in the planning process.

Course Contents:

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 Modelin 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.

Reading List

1. Blij H.J.De,1971:Geography: Regions and Concepts, John Wiley and Sons.
2. Claval P.l,1998:An Introduction to Regional Geography ,Black well 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:RegionsinQuestion: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, NewYork.
9. UNDP2001-04: Human Development Report, Oxford University Press
10. World Bank 2001-05:World Development Report, Oxford University Press,New York

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Regional Planning And Development	CC11.1	3	3	3	3	3	3	3	3	3	3	3	3
	CC11.2	3	3	3	3	3	3	3	3	3	3	3	3
	Average	3	3	3	3	3	3	3	3	3	3	3	3

Remote Sensing and GIS (Practical) (100 Marks-6Credits)

Core Course CC-12

Course Objective:

The course aim is to give basic technical knowledge and practical experience in digital remote sensing. Knowledge and practical experience in handling satellite images focusing on hands-on experience of image pre-processing, enhancement and classification; .Better understand the techniques for the study of land use land cover and urban study.

Course Outcome

CC12.1 Develop the skill so as to use digital satellite data using software

CC12.2 Prepare the maps based with satellite data to compare with the ground realities.

CC12.3 Classify digital data for the land use/land cover and urban studies

Course Contents:

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(spatialand 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: Landuse/ Land Cover, Urban Sprawl Analysis; Forests Monitoring

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 above mentioned themes.

Reading List

1. Camp bell 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 ChipmanJ.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: Asystematic approach. Orient Black Swan Private Ltd., New Delhi
10. Chauniyal , D.D.(2010)Sudur Samvedanevam Bhogolik Suchana Pranali, Sharda Pustak Bhawan, Allahabad

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Remote Sensing And GIS	CC12.1	3	3	2	2	3	3	3	2	3	3	3	3
	CC12.2	3	3	3	1	3	3	3	1	3	3	3	3
	CC12.3	3	3	3	3	3	3	3	1	3	3	3	3
	Average	3	3	2.6	2	3	3	3	1.3	3	3	3	3

Population Geography (100 Marks-6Credits)
DisciplineSpecific Elective DSE-1

Course Objective

It introduces the basic concepts of population Geography to the students. An understanding of the importance and need of Demographic data. Spatial understanding of population dynamics.

Course Outcome

DSE1.1 Learn the role of demography and population studies as a distinct fields of human geography
DSE1.2 Have sound knowledge of key concept, different components of population along with its drivers.
DSE1.3 Examine population dynamics and characteristic with contemporary issues.

Course Contents:

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.

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. ClarkeJ. 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 ScherbovS.,2004:The End of the World Population Growth in the 21stCentury, Earthscan
7. New bold 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 BP(1988):Janasankya Bhugol ,M P Hindi Granth Academy, Bhopal
11. Maurya SD(2009)Jansankya Bhugol, Sharda Putak Bhawan, Allahabad
12. Chandna, RC (2006), Jansankhya Bhugol, Kalyani Publishers, Delhi

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Population Geography	DSE2.1	3	2		3	3	3				3		
	DSE2.2	3	3		3	2	3	3	3	2	2	3	3
	DSE2.3	3	3	3	3	3	3		2	3	2	3	3
	Average	3	2.6	1	3	1.6	2.3	1	1.6	1.6	2.3	2	2

DisciplineSpecific Elective DSE-2

Urban Geography (100 Marks-6Credits)

Course Objective

To introduce the students with concepts and approach to studying the urban geography. To study with patterns and functional attributes of urban places. To analyze the urban contemporary issues focusing on Indian mega cities.

Course Outcome

DSE2.1 Comprehend the fundamentals of urbanization, morphology and hierarchy theories that explain the process of urban development.
DSE2.2 Be conversant with the morphology of Indian cities
DSE2.3 Be Aware about the issues faced in mega cities.
DSE2.4 Explore about the concepts of new urbanism, sustainable, smart and inclusive cities.

Course Contents:

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, Chennai and Chandigarh with reference to Land use and Urban Issues

Reading List

1. FyfeN.R.andKennyJ.T.,2005:TheUrbanGeographyReader,Routledge.
2. GrahamS.andMarvinS.,2001:SplinteringUrbanism:NetworkedInfrastructures,TechnologicalMobilities andthe Urban Condition, Routledge.
3. HallT.,2006:UrbanGeography,TaylorandFrancis.
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:AnIntroduction to Urban Geography, Pearson Prentice Hall New York.
6. Knox P.L. and PinchS.,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 Asianmega cities. Advances in Geographical and Environmental Studies, Spring

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Urban Geography	DSE2.1	3	2	2	3	3	3				3		
	DSE2.2	3	3	2	3	2	3	3	3	2	2	3	3
	DSE2.3	3	3	3	3	3	3		2	3	2	3	3
	DSE2.4	3	3	2	3	3	3		1	2	3	2	3
	Average	3	2.75	2.25	3	2.75	3	1	1.5	1.75	2.25	2	2.25

Semester-6

Evolution of Geographical Thought (100 Marks-6Credits)

Core Course CC-13

Course Objective

.Understanding historical evolution of geographic thought .Detailed analysis of different paradigms in geography .Evaluating the contemporary trends in geographical studies

Course Outcome

CC13.1 Distinguish the paradigms in geography discipline through time.
CC13.2 Understand the geographical thinking in different regions of world.
CC13.3 Appreciate the past and future trends of world geography in general and Indian geography in particular

Course Contents:

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.

Reading List

1. Arentsen M., Stam R. and ThuijisR.,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. DikshitR.D.,1997:Geographical Thought: A Contextual History of Ideas, Prentice– Hall India.
5. HartshoneR.,1959:PerspectivesofNatureofGeography,RandMacNallyandCo.
6. Holt-JensenA.,2011:Geography:HistoryandItsConcepts:AStudentsGuide, SAGE.
7. Johnston R.J.,(Ed.):Dictionary of Human Geography, Routledge.
8. JohnstonR.J.,1997:Geography and Geographers ,Anglo-American Human Geography since1945, 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

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Evolution Of Geographical Thought	CC13.1	3	3	3	3								3
	CC13.2	3	3	3	3	3	3			1	3	3	3
	CC13.3	3	3	3	3	3	3			3	3	3	3
	Average	3	3	3	3	2	2			1	2	2	3

Oceanography(100 Marks-6Credits)

Core Course CC-14

Course Objective

To provide an in-depth understanding of ocean physiography , to explore key oceanographic variables such as temperature, salinity, and their distribution patterns across different oceanic regions. and to analyze human impacts on marine communities, including coastal pollution and its consequences on marine biodiversity, particularly fisheries

Course Outcome

CC14.1 Physical and chemical properties of sea water, bottom relief and distribution of oceanic resources.
CC14.2 Understand the topography of Indian, Pacific and Atlantic Oceans; Ocean deposits.
CC14.1 Have sound knowledge continental shelf, continental slope, sub-marine canyons, coral reefs ,temperature ,salinity, ocean currents, waves & tides; sea level changes.

Course Contents:

1. Meaning, nature and scope of Oceanography, Tectonic evolution ofocean basins, Bottom relief of Ocean Relief Features of Atlantic, Indian and Pacific
2. Composition of sea water, temperature Density, Salinity of Ocean, its distribution and Determinants, Ocean Deposits-Classification and Distribution, Factors controlling the deposition and distribution of oceanic sediments.
3. Ocean Floor Topography and Oceanic Movements–Waves, Currents and Tides.

Reading list

1. Basu, S.K(2003).Hand book of Oceanography .Global Vision, Delhi.

2. Bird, E.(2000).Coastal geomorphology-An introduction. JohnWiley&Sons.28
3. Davis Richard, A.C(1972). Oceanography. Addition Wesky Publishing Co.
4. Garrison,T.M(1999).Oceanography. Barooks/ Colewads worth, New York.

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Oceanography	CC14.1	3	3	3		3	3				3	1	3
	CC14.2	3	3	3	3	3	3			3	3	2	3
	CC14.3	3	3	3	3	3	3			3	3		3
	Average	3	3	3	2	3	3			2	3	1	3

Political Geography (100 Marks-6Credits)

DisciplineSpecific Elective DSE-3

Course Objective

To critically understand the concepts of state, nation and nation state. To develop the linkages between electoral geography and political geography .To interpret the politics of displacement focusing on Dams and SEZ

Course Outcome

DSE3 .1 Learn the concept of nation and state and geopolitical theories
DSE 3.2 Understand the different dimensions of electoral geography and resource conflict
DSE 3.3 Have sound knowledge of politics of displacement ,focusing on dams and SEZ

Course Contents:

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. AgnewJ.,2002:MakingPoliticalGeography,Arnold.
2. AgnewJ.,MitchellK.andToalG.,2003:ACompaniontoPoliticalGeography,Blackwell.
3. CoxK.R.,LowM.andRobinsonJ.,2008: The Sage Hand book of Political Geography, Sage Publications.
4. CoxK.,2002:Political Geography: Territory, State and Society, Wiley-Blackwell
5. GallaherC.,etal,2009:Key Concepts in Political Geography, Sage Publications.
6. GlassnerM.,1993:Political Geography, Wiley.
7. JonesM.,2004:An Introduction to Political Geography: Space, Place and Politics, Routledg.
8. Mathur H M and M M Cernea (eds.)Development, Displacement and Resettlement–Focus on Asian Experience, Vikas, Delhi
9. PainterJ.andJeffreyA.,2009:PoliticalGeography,SagePublications.
10. TaylorP.andFlintC.,2000:PoliticalGeography,PearsonEducation.
11. VermaMK(2004):Development,DisplacementandResettlement,RawatPublications,Delhi
12. Hodder Dick, Sarah J Llyod and Keith S McLachlan(1998),Land Locked States of Africa and Asia(vo.2), Frank Cass

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Political Geography	DSE3.1	3	2	2	3	3	3				3		
	DSE3.2	3	3	2	3	2	3	3	3	2	2	3	3
	DSE3.3	3	3	3	3	3	3		2	3	2	3	3
	Average	3	2.6	2.3	3	2.6	3	1	1.6	1.6	2.3	2	2

Social Geography (100 Marks-6Credits)

DisciplineSpecific Elective DSE-4

Course Objective

To appreciate the roles of geographic factors in socio-cultural diversity and well-being. To analyse in details the social wellbeing, problems and welfare programmes and policies.

Course Outcome

DSE4.1 Understand the nature, scope and relationships of geography and human wellbeing;
DSE4.2 Acquire knowledge on spatial dimensions of social diversity components
DSE4.3 Appreciate the social welfare programs related to inclusive and exclusive policies in India

Course Contents:

1. Social Geography: Concept, Origin, Nature and Scope.
2. Peopling Process of India: Technology and Occupational Change; Migration.
3. Social Categories: Caste, Class, Religion, Race and Gender and their Spatial distribution
4. . Geographies of Welfare and Well being: Concept and Components–

Healthcare, Housing and Education.

5. Social Geographies of Inclusion and Exclusion, Slums, Gated Communities, Communal Conflicts and Crime.

Reading List

1. AhmedA.,1999:SocialGeography,RawatPublications.
2. CasinoV.J.D.,Jr.,2009)Social Geography: A Critical Introduction, Wiley Blackwell.
3. CaterJ.andJonesT.,2000:SocialGeography:AnIntroductiontoContemporaryIssues, Hodder Arnold.
4. HoltL.,2011:Geographies of Children, Youth and Families: An International Perspective, Taylor &Francis.
5. PanelliR.,2004:Social Geographies: From Difference to Action, Sage.

CO-PO METRICS

Paper Name	Course Outcome	Basic Concept	Understanding Landscape	Understanding Ecosystem Structure and Potential	Human Perception and Behaviour	Identification of Critical Problems and Issues	Field Based Knowledge	Spatial Tools and Techniques	Statistical Techniques	Applied Dimensions	Case Study based Analysis	Public Policy and Management	Communication Skills
Social Geography		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	DSE4.1	3	2	2	3	1	3				3		
	DSE4.2	3	3	2	3	2	3	3		2	2	3	3
	DSE4.3	3	3	3	3	2	3			3	2	3	3
	Average	3	2.6	2.3	3	1.6	3	1		1.6	2.3	2	2

Head
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