

Appendix-25
Resolution No. 14-1 (14-1-3)

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DEPARTMENT OF GEOGRAPHY

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DEPARTMENT OF GEOGRAPHY

COURSES OFFERED BY DEPARTMENT OF GEOGRAPHY

Category I

Geography Courses for Undergraduate Programme of study with Geography as a
Single Core Discipline
(B.A. Honours in Geography in three years)

SEMESTER-IV

DISCIPLINE SPECIFIC CORE COURSE – OCEANOGRAPHY (DSC 10)

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
OCEANOGRAPHY	4	3	1	0	Class 12th	NIL

Learning Objectives:

The Learning Objectives of this course are as follows:

- To enable the learner to understand the basics of oceanography.
- To enable the learner to explain the configuration of the ocean bottom
- To enable the learner to discuss ocean water and its unique ecosystem
- To equip the learner to appreciate and elaborate the problems and policies for sustainable oceans
-

Learning Outcomes:

The Learning Outcomes of this course are as follows:

- The students would be able to comprehend and establish the relationship between human action and global ocean conditions. They would be able to explain the ocean as a regulator of global climate.
- Illustrate the dynamic ocean bottom topography and appreciate the circulation of cold and warm Ocean currents.
- Discuss the salinity and temperature distribution of ocean water on a three-dimensional spatial perspective.
- Elaborate the marine ecosystems as well as explain the problems and address the policies to resolve them.

Course Outline:

UNIT 1: Introduction to Oceanography: (8 hrs)

- Significance of Oceanography, Human actions and the Oceans, Challenges to Sustainability of Marine Ecosystems, Role of Sea surface Temperature (SST) as Global Climate Regulator

UNIT 2: Geomorphological Oceanography: (8 hrs)

- Ocean Bottom Topography – Relief of Ocean Floor with Global examples

UNIT 3: Physical and Chemical Oceanography: (9 hrs)

- Properties of Ocean Water: Salinity and Temperature (Horizontal and Vertical Distribution); Oceanic currents

UNIT 4: Biological Oceanography: (10 hrs)

- Marine Ecosystems: Coral Reef, Mangrove, Open and Deep Sea

UNIT 5: Sustainability of Oceans- Problems and Policies: (10 hrs)

- Marine Challenges and Management, Marine Policy: Integrated Coastal Zone Management (ICZM) with reference to India and SDG 14; Life Below Water

Readings

- Basu S.K. (2003). Hand Book of Oceanography. Global Vision, Delhi.
- Davis, R. J.A. (1996). Oceanography: An Introduction to the Marine Environment. Brown Co, Iowa.
- Garrison, T. (2016). Oceanography: An Invitation to Marine Science. 9th ed, Cengage Learning, Boston.
- Lal. D.S. (2003) Oceanography. Sharada Pustak Bhavan, Allahabad.
- Pinet, P.R. (2014). Invitation to Oceanography. 7th ed, Jones and Barlett Publishers, Burlington.
- Sharma, R. C. and Vatal, M. (2018) Oceanography for Geographers. Surjeet Publications, Delhi.
- Singh, S. (2015). Oceanography. Pravalika Publication, Allahabad,
- Sverdrup K. A. and Armstrong, E. V. (2008). An Introduction to the World Ocean. McGraw Hill, Boston.

Readings (Hindi)

- Gautam, A. (2005) Jalwayu Evam Samudra Vigyan. Rastogi Publication, Meeruth.
- Kulshrestha, K.P. (2004). Samudra Vigyan. Kitab Ghar, Kanpur.
- Singh, S. (2015). Samudra Vigyan. Pravalika Publication, Allahabad.
- Tiwari, R. K. (2016). Bhautik Bhugol. Rajsthan Hindi Granth Academy, Jaipur.

DISCIPLINE SPECIFIC CORE COURSE – ECONOMIC GEOGRAPHY (DSC 11)

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
ECONOMIC GEOGRAPHY	4	3	1	0	Class 12th	NIL

Learning Objectives:

- To evolve an understanding about the significance of space and time as attributes of human economic activities.
- To comprehend the role of geographical factors in determining the transformation of human economic activities.
- To develop an understanding of historical progression of trends and transformation of Primary, Secondary and Tertiary economic activities.

Learning Outcomes:

- To enable the learner to appreciate the role of geographical parameters in determining various economic activities and to understand the scope of economic geography, differentiating it from classification of economic activities.
- To enable the learner to assess and analyse the role of space and location in pursuit of economic activities.
- To enable the learner to develop the capability of analyzing transformation of economic activities with reference to space, time and diffusion of technology.

Course Outline

UNIT 1: Introduction: (10 hrs)

- Nature, scope and concepts and Approaches to Economic Geography; Classification of Economic activities.

UNIT 2: Locational Factors of Economic Activities: (9 hrs)

- Factors affecting location of economic activities in agriculture industry and services; Weber's Theory of Industrial Location.

UNIT 3: Transitions and emerging trends in primary and secondary economic activities: (9 hrs)

- contemporary agriculture, Agro based Industry; SEZ and Technology Parks.; Pharmaceutical Industry

UNIT 4: Progressions in Tertiary Activities: (9 hrs)

- Case study approach to Knowledge based industries; IT enabled Services industry; Wellness industry

UNIT 5: Globalization of Economic activities: (8 hrs)

- globalization, liberalization, Ecommerce, gig economy (selected case studies)

Readings

- Alexander J. W., 1963: Economic Geography, Prentice-Hall Inc., Englewood Cliffs, New Jersey.
- Coe N. M., Kelly P. F. and Yeung H. W., 2007: Economic Geography: A Contemporary Introduction, Wiley-Blackwell.
- Roy, Prithwish, 2014, Economic Geography, New Central Book Agency.
- Combes P., Mayer T. and Thisse J. F., 2008: Economic Geography: The Integration of Regions and Nations, Princeton University Press.
- Wheeler J. O., 1998: Economic Geography, Wiley..
- Maurya, S. D., 2018, Economic Geography, Pravalika Publication, Allahabad.
- Bagchi-Sen S. and Smith H. L., 2006: Economic Geography: Past, Present and Future, Taylor and Francis.
- Singh, S. and Saroha, J., 2021, Human and Economic Geography, Pearson.
- MacKinnon, D, and Cumbers A., 2007, An Introduction to Economic Geography: Globalization, Uneven Development and Place, Harlow: Pearson Education.
- Matoria, C. and Joshi, R., 2019, Aarthik Bhugol (Economic Geography), Sahitya Bhawan Publication, Agra. (Hindi Edition).

DISCIPLINE SPECIFIC CORE COURSE – FUNDAMENTALS OF GIS (PRACTICAL) (DSC 12)

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
FUNDAMENTALS OF GIS (PRACTICAL)	4	2	0	2	Class 12th	NIL

Learning Objectives:

The learning objectives of this course are as following:

- In this course the students will get the basic understanding of the concept of GIS, its definitions and components and its significance in geographical study.

- They will gain the working experience to handle digitally, both spatial and attribute geographical data, its collection, storage and management through GIS and the use of locational specific data in GIS using GPS.
- They learn the fundamental steps in data analysis and the GIS application to the geographical study of land uses, urban sprawl, and forests through the means of spatial mapping.

Learning Outcomes:

Through this practical, hands-on course the students will be able to know the GIS basics and when completed they would be able to:

- Develop a basic understanding of GIS skills and learn to work on a GIS Software using computer/ laptop/ and or any other digital medium.
- Understand GIS Data Structures and GIS Data Analysis for geographical enquiry.
- Learn to apply basic GIS operations/skills to analyse the spatial data for mapping, monitoring and to detect both spatial and temporal changes in land use/cover, forests, urban sprawl, and natural resources.
- Students will be aware of spatial thinking and its manifestation in resolving issues through this computer-based technology.

Course Outline

UNIT 1: Geographical Information System/Science (GIS): (7 hrs)

- Definition and overview, Components, Different types of GIS Software, Significance and emerging trends.

UNIT 2 : GIS Data Structures: (8 hrs)

- Types (spatial and non-spatial), Point, Line and Area; Raster and Vector Data Structure, Database Management System (DBMS).

UNIT 3: GIS Data Analysis – I: (11 hrs)

- Data Input; Methods, Geo-referencing, GPS for GIS Data creation, Digitization, Input of Attribute data, Data Editing; Errors in input data, Basic Geo-processing tools.

UNIT 4: GIS Data Analysis – II: (11 hrs)

- Query and Output; Conversion, Buffering, Overlays, MapLayout

UNIT 5: Application of GIS : (8 hrs)

- Land Use / Land Cover Change, Morphometric Analysis, Urban Studies

Practical Record:

- A **record file** consisting of **5 exercises** using any GIS Software.
- The exercises should focus on any one of the above-mentioned applications based on using vector / raster data layers for Query analysis / Proximities / Finding relationship / Seeing Patterns / monitoring change.

Readings:

- Bhatta, B. (2010). *Analysis of Urban Growth and Sprawl from Remote Sensing*, Berlin, Germany: Springer.
- Burrough, P.A., McDonnell, R.A. and Lloyd, D. McDonnell (2016). *Principles of Geographical Information Systems*, UK: Oxford University Press.
- DeMers M. N., 2000: *Fundamentals of Geographic Information Systems*, NJ, USA: John Wiley & Sons.
- Gomasasca, M. A. (2009). *Basics of Geomatics*. NY, USA: Springer Science.
- Heywoods, I., Cornelius, S and Carver, S. (2006). *An Introduction to Geographical Information system*. NJ, USA: Prentice Hall.
- Jones, C. B. (2014). *Geographical Information Systems and Computer Cartography*. London, UK: Taylor& Francis.
- Longley, P. A., Goodchild, M., Maguire, D. J., & Rhind, D. W. (2010). *Geographic Information Systems and Science*. NJ, USA: John Wiley & Sons.
- O'Sullivan, D., & Unwin, D. (2014). *Geographic Information Analysis*. NJ, USA: Wiley.
- Saha K and Froyen YK (2022) *Learning GIS Using Open Source Software: An Applied Guide for GeoSpatial Analysis*, Routledge
- Singh, R.B. and Murai, S. (1998). *Space Informatics for Sustainable Development*. NewDelhi, India: Oxford and IBH.

Suggestive:

- Chang K.-T., 2009: *Introduction to Geographic Information Systems*, McGraw-Hill.
- Chauniyal, D.D. (2010). *Sudur Samvedanevam Bhogolik Suchana Pranali*. Allahabad, India: Sharda Pustak Bhawan.
- Clarke K. C., 2001: *Getting Started with Geographic Information Systems*, NJ, USA: Pearson Prentice Hall.
- Elangovan.K (2020) *GIS Fundamentals, Applications, and Implementations*, New India Publishing Agency
- Kumar, Dilip, Singh, R.B. and Kaur, R. (2019). *Spatial Information Technology for Sustainable Development Goals*. New Delhi, India: Springer.
- Nag, P. (2008). *Introduction to GIS*. New Delhi, India: Concept.
- Sarkar, A. (2015) *Practical geography: A systematic approach*. New Delhi, India:Orient Black Swan Private Ltd.

DISCIPLINE SPECIFIC ELECTIVE COURSE – GEOGRAPHY OF HIMALAYAS (DSE 3)

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
GEOGRAPHY OF HIMALAYAS	4	3	1	0	Class 12th	NIL

Learning Objectives:

- Understanding the importance of the Himalayan Mountains.
- Various aspects of the physical and human geography of the Himalayan mountain ranges.
- Understanding of climate change adaptation practices and initiatives by international and national agencies and communities.

Learning outcomes:

- To enable understanding of origin and, Political-Climatological-Social-Spiritual-Ecological significance of the Himalayan Mountain ranges.
- To understand the distinct physiography, climatology, hydrology, population dynamics, livelihood options, and developmental activities in the Himalayan Mountain ranges.
- To appreciate climate change and human activities-led impacts in the Himalayan region and related initiatives to cope up with these impacts.

Course Outline

Unit 1: Understanding Himalayan Mountains: (5 hrs)

- Origin, Climatological-Social-Spiritual-Ecological significance.

Unit 2: Geography of the Himalayas: (11 hrs)

- Geology and Physiography; soils and vegetation; Climates and River Systems of the Himalayas

Unit 3: Population dynamics: (11 hrs)

- Demographic indicators, population, livelihood options and, developmental activities in the Himalayan Region

Unit 4: Climate change and human-induced impacts: (10 hrs)

- Environmental degradation, Hydro-meteorological and geo-environmental disasters; glacial recession; Land use change, deforestation and biodiversity loss

Unit 5: Policy Initiatives and Disaster Mitigation: (8 hrs)

- Climate Change Adaptation Practices, Disaster Risk Reduction, Role of International and National Institutions, Community-based eco-friendly practices

Readings

- Funnell, D. C., & Price, M. F. (2003). Mountain geography: a review. *The Geographical Journal*, 169(3), 183–190.
- Hund, A. J., & Wren, J. A. (2018). *The Himalayas: An Encyclopedia of Geography, History, and Culture*. ABC-CLIO/Greenwood Press.
- Ives, J. D. (1987). The theory of Himalayan environmental degradation: its validity and application challenged by recent research. *Mountain Research and Development*, 7, 189.
- Ives, J., & Messerli, B. (2003). *The Himalayan Dilemma: Reconciling Development and Conservation*. The United Nations University (UNU) Routledge.
<https://doi.org/https://doi.org/10.4324/9780203169193>
- Kohler, T., & Maselli, D. (2009). Mountains and Climate Change: From Understanding to Action. *Published by Geographica Bernensia with the Support of the Swiss Agency for Development and Cooperation (SDC), and an International Team of Contributors. Bern.*
- Pandit, M. K. (2017). *Life in the Himalaya: An Ecosystem at Risk*. Harvard University Press.
- Price, M. F., Byers, A. C., Friend, D. A., Kohler, T., & Price, L. W. (Eds.). (2013). *Mountain Geography*. University of California Press.
<https://doi.org/https://doi.org/10.4324/9780203169193>
- Schickhoff, U., Singh, R. B., & Mal, S. (2022). *Mountain Landscapes in Transition: Effects of Land Use and Climate Change*. Springer Nature.
<https://doi.org/https://doi.org/10.1007/978-3-030-70238-0>
- Singh, R. B., Schickhoff, U., & Mal, S. (2016). Climate change, glacier response, and vegetation dynamics in the Himalaya: Contributions toward future earth initiatives. In *Climate Change, Glacier Response, and Vegetation Dynamics in the Himalaya: Contributions Toward Future Earth Initiatives*. Springer Cham.
<https://doi.org/10.1007/978-3-319-28977-9>
- Valdiya, K. S. (1998). Dynamic Himalaya. In *Gondwana Research* (pp. 1–178). Jawaharlal Nehru Centre for Advanced Scientific Research.
[https://doi.org/10.1016/s1342-937x\(05\)70174-x](https://doi.org/10.1016/s1342-937x(05)70174-x)
- Valdiya, K. S. (2015). *The Making of India: Geodynamic Evolution*. Springer International Publishing.
- Wester, P., Mishra, A., Mukherji, A., & Shrestha, A. B. (2019). The Hindu Kush Himalaya Assessment. In *The Hindu Kush Himalaya Assessment*. Springer Cham.
<https://doi.org/10.1007/978-3-319-92288-1>

DISCIPLINE SPECIFIC ELECTIVE COURSE – RURAL DEVELOPMENT (DSE 4)

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
RURAL DEVELOPMENT	4	3	1	0	Class 12th	NIL

Learning Objectives:

- The course is designed to impart an integrated understanding of the crucial dimensions of rural development.
- It aims to introduce students to the need and practice of rural development projects and programmes in India.

Learning Outcomes:

At the end of the course, the students shall develop an understand of the following :

- concepts related to the need and approaches to rural development;
- Issues pertaining to rural society and economy;
- the existing rural development programs and institutions and knowledge of successful case studies from India and the sub-continent.

Course Outline

Unit 1. Understanding Rural Development: (5 hrs)

- Concept of Development; Development, Relevance and Approaches to Rural Development

Unit 2. Theories of Rural Development: (11 hrs)

- Modernization Theory; Dependency Theory; Theory of The Big Push; Leibenstein's Critical Minimum Effort theory

Unit 3. Rural Society and Economy: (11 hrs)

- Agriculture and allied activities; Seasonality and need for expanding non-farm activities; Issues of landholdings and land reforms; Concepts of social mobility and social change.

Unit 4. Rural Development Programs in India: (10 hrs)

- Poverty Alleviation Programmes; Programmes for Employment and Social Security; Other Development Programmes (PMGSY, MNREGA, PURA)

Unit 5. Rural Development Institutions and Case studies: (8 hrs)

- Panchayati Raj institutions, Cooperatives, Training & Finance Institutions, and Voluntary organisations. Rural Development Experience (case study from India and the Indian sub-continent)

Readings:

- Venkata Reddy, K. Agriculture and Rural Development (Emerging Trends and Right Approach to Development), Himalaya Publishing House Pvt., Ltd., Mumbai, 2012.
- Jain L.C. 1985, Grass without roots; Rural Development under Government Auspices, Sage Publications, New Delhi.
- Seshadri, K. 1976, Political Linkages and Rural Development, National Publishing House, New Delhi.
- Maheswari S. (1985) Rural Development in India, - A Public Policy Approach, Sage Publication, New Delhi.
- Satyasundaram (1997), Rural Development, Himalaya Publishing House, New Delhi.
- Singh. Katar. 2009. Rural Development Principles, Policies and Management. New Delhi: Sage Publications.
- Sharma S.K and S.L. Malhotra. Integrated Rural Development: Approach, Strategy and Perspectives, New Delhi: Heritage.

Online Resources:

- https://www.researchgate.net/publication/326394634_A_Handbook_of_Rural_India
- https://www.researchgate.net/publication/363239631_Rural_and_Agricultural_Development_Policy_and_Politics
- https://www.researchgate.net/publication/346462814_Democracy_Development_and_the_Countryside_Urban-Rural_Struggles_in_India
- https://www.researchgate.net/publication/363306272_The_South_Asian_Path_of_Development_A_Historical_and_Anthropological_Perspective
- https://www.researchgate.net/publication/327282616_Changing_Face_of_Rural_India
- https://www.researchgate.net/publication/368608447_Application_of_Science_Technology_for_Rural_Development
- https://www.researchgate.net/publication/229779918_Theory_in_Rural_Development_An_Introduction_and_Overview

DISCIPLINE SPECIFIC ELECTIVE COURSE – NATURAL RESOURCE MANAGEMENT (DSE 5)

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
NATURAL RESOURCE MANAGEMENT	4	3	1	0	Class 12th	NIL

Learning Objectives:

The learning objectives of this course are as follows:

- To understand the basic concepts of natural resources, resource appraisal and resource management
- To explain the issues and challenges of management of different natural resources
- To discuss sustainable development of natural resources
- To analyse the resource management policies

Learning Outcomes:

The Learning Outcomes of this course are as follows:

- The students would be able to comprehend the concepts related to the field of natural resource management.
- The students would be able to assess the issues and challenges of management land, soil, water, forest and energy resources.
- The students would elaborate sustainable resource development, natural resource governance and policies.

Course Outline

Unit 1: Introduction: (9 hrs)

- Meaning and concepts of Natural Resources; Classification of natural resources, Approaches to Natural Resource Management, Resource Appraisal

Unit 2: Land and Soil Resources: (9 hrs)

- Utilization, Issues and challenges; Management and conservation

Unit 3: Water and Forest Resources: (9 hrs)

- Utilization, Issues and challenges; Management and conservation

Unit 4: Energy Resources: (9 hrs)

- Growing global energy needs; Use of alternate energy resources; Management and conservation

Unit 5: Contemporary Strategies for Natural Resource Management: (9 hrs)

- Sustainable Resource Development; Natural Resources Governance Framework; Resource Management Policies.

Readings

- Gautam, A. (2018) Natural Resource: Exploitation, Conservation and Management, Sharda Pustak Bhawan, Allhabad.
- Potter, K. (2022) Natural Resources: Exploitation, Depletion and Conservation, Callisto Reference, New York
- Singh, J. and G. Pandey (2015) Natural Resource Management and Conservation, New Delhi: Kalyani Publishers.
- Cooper, P. (2018) Ecology and Natural Resource Management, Syrawood Publishing House, New York
- Cole, R.A. (1999) Natural Resources: Ecology, Economics and Policy, Prentice Hall College Division
- Thakur, B. (2009) Perspectives in Resource Management in Developing Countries, Vol 1: Resource Management-Theory and Practices, Concept Publishing House, New Delhi.
- Thakur, B. (2009) Perspectives in Resource Management in Developing Countries, Vol 4: Land Appraisal and Development, Concept Publishing House, New Delhi.
- Zilberman, D., J.M. Perloff and C.S. Berck (2023) Sustainable Resource Development in the 21st Century, Natural Resource Management Policy: Vol. 57, Springer
- Pereira L.S. et al (2013) Coping With Water Scarcity: Addressing the Challenges, Springer
- Misra, H. N. (2014) Managing Natural Resources: Focus on Land and Water, PHI Learning Pvt. Ltd., New Delhi.
- Pathak, P. and R.R. Srivastav (2021) Alternate Energy Resources: The way to Sustainable Modern Society, Springer.
- Grebner, D.L. et el (2021) Introduction to Forestry and natural Resources, Academic Press, U.K.
- Saxena, H. M. (2013) Economic Geography, Rawat Publication, New Delhi.

GENERAL ELECTIVE -SUSTAINABLE DEVELOPMENT: SOCIETY AND POLICY INTERFACE (GE 10)

NOTE Course title & Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
SUSTAINABLE DEVELOPMENT: SOCIETY AND POLICY INTERFACE	4	3	1	0	Class 12th	NIL

Learning Objectives:

- To understand emerging sustainable science disciplines and associated concepts,
- To explain principles of sustainable development, including components of sustainable development
- To discuss methods of measuring sustainable development and issues related to the same.

Learning Outcomes:

After transacting the course, students will be able to:

- Understand the basic concept of sustainable development.
- Assess sustainability and related methods to measure the same.
- To explain major issues related to sustainability including ways to achieve the same.

Course Outline

Unit 1: Sustainable Development: (7 hrs)

- Meaning and Concept of Sustainable Development, Components, Historical Background, Sustainability Sciences.

Unit 2: Sustainable Development Goals: (10 hrs)

- Illustrative SDGs; Goal-Based Development; Financing for Sustainable Development

Unit 3 : Sustainability Assessment and Appraisal: (10 hrs)

- Sustainability Indicators, Ecological Footprint Analysis, Sustainability Index, India SDG Index.

Unit 4: Issues in Sustainability: (10 hrs)

- Poverty and Disease, Universal Health Coverage; Policies and Global Cooperation for Climate Change, Biodiversity loss

Unit 5: Sustainable Policies and Success Stories: (8 hrs)

- Good Governance for Sustainability, Gandhian Philosophy of rural development, Sustainable Cities, Micro-level Success stories: Piplantri Village (Rajasthan) and Kundrakudi Village (Tamil Nadu)

Practical component (if any) – NIL

Readings

- Atkinson, G., Dietz, S. Neumayer, E. (2007) Handbook of Sustainable Development, Edward Elgar, Massachusetts, USA.
- Blewitt, J. (2008) *Understanding Sustainable Development*, Earthscan, London.
- Bosselmann, K. (2008) *The Principle of Sustainability: Transforming Law and Governance*, Ashgate, England.
- Cole, V. and Sinclair, A.J. (2002) Measuring the ecological footprint of a Himalayan tourist centre. *Mountain Research and Development*, 22(2): 132-141.
- Khuman Y.S.C., Mohapatra, S., Yadav, S.K. and Salooja, M.K. (2014) Sustainability science in India, *Current Science*, 106(1): 24-26.
- Kopnina, H. and Shoreman-Ouimet, E. (eds) *Sustainability: Key Issues*, London and New York: Routledge.
- Piplantri: A Rajasthan village which celebrates the birth of every girl child with 111 trees. Ministry of Women and Girl Child. Weblink: <https://wcd.nic.in/sites/default/files/Piplantri.pdf>
- Planning Commission (1986) *Towards improved local level planning for rural development: Lessons from some Experience*. Multi-Level Planning Section. Government of India, New Delhi.
- Sachs, J.D. (2015) *The Age of Sustainable Development*, Columbia University Press, New York.
- SDG India: Index & Dashboard 2020-21, Partnerships in the Decade of Action, Niti Aayog Report, Government of India, New Delhi.
- Soubbotina, T.P. (2004) *Beyond Economic Growth: An Introduction to Sustainable Development*, The World Bank, Washington, D.C.
- Wackernagel, M. and Rees, W. (1996) *Our Ecological Footprint: Reducing Human Impact on the Earth*. New Society Publishers, Philadelphia.

GENERAL ELECTIVE-GEOGRAPHY OF CONFLICT AND PEACE STUDIES (GE 11)

Course title & Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
GEOGRAPHY OF CONFLICT AND PEACE STUDIES	4	3	1	0	Class 12th	NIL

Learning Objectives:

- Develop an understanding about the Geography of Conflict and Peace Studies as an academic discipline. The course is organised around three principal themes: Introduction to Geography of Conflict and Peace Studies, Conflict Resolution, Peace building and Peace-making in spatial context.

Learning Outcome:

At the end of the course the students shall understand -

- Core Concepts of Geography of Conflict and Peace Studies
- Conflict and peace related different perspectives
- International and Intra state Conflicts with case examples
- Historical experiences of Conflict Resolution at global and regional level
- Peace making and Peace Building Process
- They will also gain knowledge to explain and analyse world politics around different geographical contexts.

Course Content:

Unit 1: Introduction: (8 hrs)

- Conflict and Peace: Definitions, Cause based classification of conflicts, Emergence of Conflicts and Peace Studies in Geography, Global Indices of Conflict and peace -Global peace Index, Global Conflict Risk Index

Unit 2: Philosophical perspectives on Conflict and peace: (10 hrs)

- Marxist, Socialist, Gandhian: key concepts, Global and Indian Experiences

Unit 3: International and Inter state Conflicts: (9 hrs)

- Conflicts in the International System: Treaty of Versailles and World War II, Intra-state river water and boundary disputes, Contemporary wars-Bio Warfare, Resource wars

Unit 4: Peace making and Peace Building: (9 hrs)

- Concept, Process, approaches; India 's Soft Power and peace-making, India's participation in UN peace keeping

Unit 5: Conflict Resolution - Global and National case studies: (9 hrs)

- Geneva Convention, Hague Conventions of 1899 and 1907, North Atlantic Treaty Organization (NATO) , Formation of League of Nations, Establishment of United Nations ; National Panchsheel Principles , Indian Peace Accords

Readings

- Audrey Kobayashi (ed), 2015, Geographies of Peace and Armed Conflict, Routledge
- Tim Marshall ,2016, Prisoners of Geography, 2016, Elliott & Thompson Limited
- Tim Marshall, 2021.THE POWER OF GEOGRAPHY: Ten Maps That Reveal the Future of Our World, Elliott & Thompson Limited
- Robert D. Kaplan ,2013, The Revenge of Geography: What the Map Tells Us About Coming Conflicts and the Battle Against Fate, RHUS; Reprint edition
- John Schwarzmantel, Hendrik Jan Kraetzschmar (ed) , 2013, Democracy and Violence: Global Debates and Local Challenges , Routledge;
- Colin Flint, 2004, The Geography of War and Peace: From Death Camps to Diplomats, OUP USA
- Björkdahl, A., Buckley-Zistel, S. (eds) Spatializing Peace and Conflict. Rethinking Peace and Conflict Studies. Palgrave Macmillan, London.
https://doi.org/10.1057/9781137550484_1

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- Kriesberg, Louis, et.al., eds., 1989, *Intractable Conflicts and their Transformation*, Syracuse University Press,
- Kriesberg, Louis and Thorson, Stuart J., eds., 1991, *Timing and the De-escalation of International Conflicts*, Syracuse: Syracuse University Press
- Lederach, John Paul, 2004, *Building Peace: Sustainable Reconciliation in Divided Societies*, Princeton: Princeton Uni Press,
- Miall, Hugh, Ramsbotham and Woodhouse, Tom, 1999, *Contemporary Conflict Resolution: The Prevention, Management and Transformation of Conflicts*, Cambridge: Polity Press.
- Michael, C.R., 1981, *The Structure of International Conflict*, London: Macmillan,
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- Parekh, Bhikhu, 2001, *Gandhi*, (London: Oxford Paperback,)
- Vayreynen, Raimo, Dieter Senghaas and Christian Schmidt (eds.), 1987, *The Quest for Peace: Cultures and States*, California: Beverly Hills
- Wallensteen, Peter (ed.), 1998, *Preventing Violent Conflicts: Past Record and Future Challenges*, Uppsala University: Sweden: Department of Peace and Conflict Resolution
- Zartman, I. William and Rasmussen, J. Lewis. (eds.) 1997, *Peace-making in International Conflict Methods & Techniques*, Washington, DC: US Institute of Peace Press,
- Chomsky, Noam, 1999, *World Orders: Old & New*, Oxford University Press
- Bose, Anima. 1987. *Dimensions of Peace and Non-violence: The Gandhian Perspectives*, Juergensmeyer, Mark. 2003. *Gandhi's Way: A Handbook of Conflict Resolution*. New Delhi: Oxford

GENERAL ELECTIVE-REGIONAL DEVELOPMENT (GE 12)

Course title & Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
REGIONAL DEVELOPMENT	4	3	1	0	Class 12th	NIL

Learning Objective

The Learning Objectives of this paper are as follows:

- To understand the importance of balanced regional development.
- To familiarize the students about multi-sectoral regional disparities at regional and global levels
- To introduce students to theoretical and practical aspects of regional planning and regional development.

Learning Outcome:

The Learning Outcomes of this paper are following:

- The students will understand the causes of regional disparities and significance of balanced regional development.
- The students will be able to assess the level of regional inequalities in different sectors
- of economy and in human development.
- The students will gain insights into the spatial- regional aspects of development and the importance of planned efforts to develop backward areas.

Course Outline

- **Unit 1: Introduction: (8 hrs)** Concept of Regional Development, Determinants of regional disparities and significance of balanced Regional Development.
- **Unit 2: Global Regional Disparities: (10 hrs)** Spatial patterns of Human Development- HDI of Developed, Developing and Least Developed Countries, Case study of Sahel and Western Europe.
- **Unit 3: Regional Disparities in India: (9 hrs)** Regional disparities in agricultural and industrial development, regional disparities in Human Development (Poverty, Education and Health).
- **Unit 4: Theories of Regional Development: (9 hrs)** Growth Pole and Growth Centre; Cumulative Causation and Core-periphery.
- **Unit 5: Regional Development Planning: (9 hrs)** Multipurpose Dam Project (Sardar Sarovar Project); Urban Planning (National Capital Region) and Target-Group Approach (Integrated Tribal Development Programme).

Readings

- Chandna, R.C. (2000) Regional Planning: A Comprehensive Text, Kalyani Publishers, New Delhi.
- Chaudhuri, J.R. (2001) An Introduction to Development and Regional Planning with special reference to India, Orient Longman, Hyderabad.
- Kuklinski, A.R. (1972) Regional Development and Planning: International Perspective, Sijthoff-Leydor.
- Mahesh Chand and V.K. Puri (1983) Regional Planning in India, Allied Publishers, New Delhi.
- Misra, R.P. (ed.) (1992) Regional Planning: Concepts, Techniques, Policies and Case Studies, 2nd Edition, Concept Publishing Company, New Delhi.
- Misra, R.P. and Natraj, V.K. (1978) Regional Planning and National Development, Vikas Publication, New Delhi.
- Patnaik, C.S. (1981) Economics of Regional Development and Planning in Third World Countries, Associate Publishing House, New Delhi.
- Saroha, J and Singh, S (2022) Geography of India (3rd Edition), Pearson India Education Services, Noida.
- Singh, S and Saroha, J (2021) Human and Economic Geography, Pearson India Education Services, Noida.
- Sundaram, K.V. (1986) Urban and Regional Planning in India, Vikas Publishing House, New Delhi.
- Eleventh Five Plan of India, Planning Commission of India, Government of India.

SEMESTER-V

Category I

Geography Courses for Undergraduate Programme of study with Geography as a Single Core Discipline

(B.A. Honours in Geography in three years)

DISCIPLINE SPECIFIC CORE COURSE – ENVIRONMENT AND ECOLOGY (DSC 13)

Learning Objectives:

1. Various dimensions of ecology and ecosystems, their spatial distribution.
2. To learn about the global environmental challenges and management

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
ENVIRONMENT AND ECOLOGY	4	3	1	0	Class 12th	NIL

3. To know about regional environmental challenges.
4. Understanding of environmental governance.

Learning Outcomes:

1. Detailed exposure to the concept of ecology, ecosystem, processes, theories and concepts.
2. In-depth knowledge of anthropogenic interventions and impacts, conservation strategies and planning.
3. Understanding the environmental concerns at global and regional level.
4. Evaluation and achievement of different environmental programs, policies and legislations.
- 5.

Course Outline:

Unit-1 Introduction: (7 hrs)

- Concept of Environment, Ecology and Ecosystem; Types of Ecology; Concepts of Ecosystem Services; Ecological and Material Footprint; Global Planetary Boundaries.

Unit-2 Ecology and Ecosystem: (9 hrs)

- Species Interactions; Ecological Limiting Factors; Ecosystem: Structure and Functions; Human Adaptation

Unit-3 Global Environmental Challenges and Management: (11 hrs)

- Climate Change, Biodiversity loss, Land degradation and Human health issues

Unit-4 Regional Ecological Issues and Management: (11 hrs)

- Coastal and Marine Ecology: Loss of mangroves and corals, Garbage Patches; Urban Ecology: Waste disposal and Pollution

Unit-5 Programmes and Policies: (7 hrs)

- Environmental Impact Assessment; Global and National Environment Policy of India

Readings:

- Brewster, E. N. 2010. *Climate Change Adaptation: Steps for a Vulnerable Planet*, New York, Nova Science.
- Cain, M.L., Bowman, W.D. and Hacker S.D. (2011). *Ecology*, 2nd Edition, Sinauer Associates Inc.
- Chandna R. C., 2002: *Environmental Geography*, Kalyani, Ludhiana.
- Chapman, J.L. & M.J. Reiss. (1998). *Ecology: Principles and Applications*. Cambridge Univ. press.
- Cunningham W. P. and Cunningham M. A., 2004: *Principals of Environmental Science: Inquiry and Applications*, Tata Macgraw Hill, New Delhi.
- Das, R. C., 1998. *The Environmental Divide: The Dilemma of Developing Countries*, A.P.H. Pub., New Delhi.
- Freedman, Bill. 1995. *Environmental Ecology: The Ecological Effects of Pollution, Disturbance, and Other Stresses*, Academic Press. London.
- Global Environment Monitoring UNEP, <https://wesr.unep.org/article/global-environment-monitoring>
- Global Environmental Outlook Reports UNEP <https://www.unep.org/geo/>
Intergovernmental Panel on Climate Change IPCC Reports(2021-23)
<https://www.ipcc.ch/report/ar6/wg2/>

**DISCIPLINE SPECIFIC CORE COURSE – AGRICULTURAL
GEOGRAPHY AND FOOD SECURITY (DSC 14)**

Course title & Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
AGRICULTURAL GEOGRAPHY AND FOOD SECURITY	4	3	1	0	Class 12th	NIL

Learning Objectives:

- To understand the nature and scope of agricultural geography.
- To provide a detailed analysis of landuse- landcover classification by NRSA.
- To enable the learners to appreciate the geographical factors affecting agriculture
- To enable the learner to identify and understand modern agricultural practices.
- To enable the learner to identify and understand the concept and dimensions of food security.

Learning Outcomes:

- A detailed insight into the subfield of agricultural geography.
- An in-depth knowledge of geographical factors affecting agriculture.
- An understanding of models and regionalization of agriculture.
- Knowledge of concepts and dimensions of food security.
- An understanding of challenges, programme and policies related to sustainable agriculture.

Course Outline

UNIT 1: Concept of Agricultural Geography: (7 hrs)

- Nature and Scope, concept and classification of landuse- landcover (twenty two fold NRSA).

Unit 2: Geographical Factors affecting Agriculture: (10 hrs)

- Physical, Economic, Technological, Institutional and socio-cultural.

Unit 3: Models, Theories and Regionalization: (10 hrs)

- Whittlesey's classification of Agricultural regions; Agro ecological regions of India

Unit 4: Agricultural Development: (11 hrs)

- Concept and relevance of Sustainable Agriculture, Modern Agricultural Practices (Green Revolution, Organic farming, Precision Agriculture: role of Remote Sensing and GIS modelling, role of Artificial Intelligence)

Unit 5: Food Security: (7 hrs)

- Concept and dimensions, Food security in India: Challenges, Programmes and Policy.

Readings:

- Gregor, H.P.: Geography of Agriculture. Prentice Hall, New York, 1970.
- Grigg, D. (1984): 'An Introduction to Agricultural Geography', Hutchinson Publication, London
- Hussain, M., 2000, Agricultural Geography, Rawat Publications
- Modgal, Suresh, 2017, Food Security of India, National Book Trust, 81-237-7131-2
- Ramaswamy, S. and Surulivel, L., 2017, Food Security in India, MJP Publishers, ISBN: 9788180943386, 8180943380
- Singh, J. and Dhillon, S.S. (1988), "Agricultural Geography", 2nd edition, Tata McGraw-Hill, NewDelhi
- Swaminathan, M.S., 2016, Combating Hunger and Achieving Food Security, Cambridge University Press, 9781107123113
- Symons, L. (1972): 'Agricultural Geography', Bell and Sons, London.
- Tarrant, J.R.(1974): Agricultural Geography, Problems in Modern Geography Series, John Wiley and Sons
- माजिद हुसैन, 2000, कृषि भूगोल, Rawat Publications, 9788170335658

DISCIPLINE SPECIFIC CORE COURSE – RESEARCH METHODOLOGY AND FIELDWORK (PRACTICAL) (DSC 15)

Course title & Code	Credits	Duration (Hrs per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
RESEARCH METHODOLOGY AND FIELDWORK (PRACTICAL)	4	2	0	2	Class 12th	NIL

Learning Objectives:

1. To form an understanding of various dimensions of fieldwork and its role in geographical studies.

2. To understand in detail various field techniques .
3. Understanding of nuances of research instruments, field tools and report writing.

Learning Outcomes:

1. Detailed exposure of field techniques to study new geographical landscapes.
2. In-depth knowledge of different research instruments and field techniques.
3. Understanding field ethics.

Course Outline**UNIT 1: Research methodology and fieldwork: (8 hrs)**

- concept, relevance, ethics and steps.

UNIT 2: Framing a research proposal: (10 hrs)

- identifying the research problem and study area, literature review, research questions, hypothesis, objectives, delineating the database and methods, framing the study relevance.

UNIT 3: Methods of Data collection and fieldwork: (10 hrs)

- Observation, Questionnaires, Interviews, Transects and Quadrants, Triangulation, pilot surveys, Recent trends

UNIT 4: Data analysis and interpretation: (10 hrs)

- Qualitative and Quantitative techniques of analysis; interpreting research findings

UNIT 5: Field Report: (7 hrs)

- Organisation and preparation, referencing, endnote, footnotes, supplementary materials.

Practical Record:

1. Each student will prepare a report based on primary and secondary data collected during the field.
2. Handwritten (not less than 30 pages)/ typed (8000-12000 words), including preface, certificate of originality, acknowledgement, table of contents, list of figures and tables, chapters, conclusions, bibliography and appendixes.
3. One copy of the report on A 4 size paper should be submitted in soft binding.

Readings

- Creswell, J., (1994). Research Design: Qualitative and Quantitative Approaches. UK: Sage Publications.
- Dikshit, R. D. (2003). The Art and Science of Geography: Integrated Readings. New Delhi, India: Prentice-Hall of India.

- Robinson, A. (1998). Thinking Straight and Writing That Way. In Pryczak, F. and Bruce, R. P. eds.. Writing Empirical Research Reports: A Basic Guide for Students of the Social and Behavioural Sciences. Los Angeles, USA: Routledge.
- Special Issue on "Doing Fieldwork" The Geographical Review 91:1-2 (2001)
- Evans, M. (1988). Participant Observation: The Researcher as Research Tool. In Eylesand, J and D. Smith (eds). Qualitative Methods in Human Geography. Cambridge, UK: Polity.
- Mukherjee, N. (2002). Participatory Learning and Action: with 100 Field Methods. Delhi, India: Concept Publs. Co.
- Vero, E. Sara, (2021) Fieldwork Rady: An Introductory Guide to Field Research for Agriculture, Environment and Soil Scientists, Wiley, Hoboken, USA.
- Pole, S and Hillyard, S., (2015), Doing Fieldwork. Sage Publication, LA, New Delhi.
- Wolcott, H. (1995). The Art of Fieldwork. CA, USA: Alta Mira Press.
- Krishnanad and Raman VAV., (2018) A Geographer's Guide to Field Work and Research Methodology" Book Age Publications, New Delhi.

Hindi

- Jain, BM (2015) रिसर्च मेथोडोलॉजी! Research Publications in Social Science, Delhi-Jaipur.
- Ganeshan, SN. (2009) अनुसंधान प्रविधध ससद्धान्त औ प्रक्रिया ! Lokbharti Prakashan, Allahabad.
- Sharma, RA (2021) शिक्षा अनुसन्धान के मूल तत्व एवं िोध प्रक्रिया. R Lall Book Depot, Meerut.

DISCIPLINE SPECIFIC ELECTIVE COURSE - POLITICAL GEOGRAPHY (DSE 6)

Course title & Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
POLITICAL GEOGRAPHY	4	3	1	0	Class 12th	NIL

Learning Objectives

The learning objectives of the course are as follows:

- To explain the evolution of the sub field of political geography, and the contribution of its leading scholars
- To explain the key concepts and theories of the subfield of political geography
- To explain the significance of political processes and their relation to space

Learning outcomes

After completing this course, the student would be able to:

- Distinguish between Political Geography and Geopolitics and understand the importance of both
- Understand how geography affects politics and how politics affects geography
- Understand the role of geographical factors in influencing voter turnout, voting behaviour and the outcome of elections
- Understand conflicts over resources and issues related to displacement at different scales.

Course Outline

Unit 1: Introduction: (9 hrs)

- Evolution of Political Geography; Concept of State, Nation and Nation-state; Attributes of State; Frontiers and Boundaries.

Unit 2: Geopolitics: (10 hrs)

- Geopolitics: Concept; Theories of Ratzel; Geostrategic views of Mackinder and Spykman;

Unit 3: Electoral Geography: (8 hrs)

- Geographic influences on voting pattern; geography of representation and Gerrymandering.

Unit 4: Geography of Conflicts and Displacement (case studies): (9 hrs)

- Water sharing disputes; Rights of indigenous people to forests; Boundary conflicts and forced migration; Development induced displacement

Unit 5: Contemporary Political Issues: (9 hrs)

- Environmental Politics; India as an emerging power (Global and Regional)

References:

Essential:

- Agnew, J. (2002) *Making Political Geography*. London,UK: Arnold
- Painter J. and Jeffrey, A. (2009) *Political Geography*. USA: Sage Publications
- Taylor, P. and Flint, C. (2000) *Political Geography*. UK: Pearson Education
- Verma, M.K. (2004) *Development, Displacement and Resettlement*. Delhi: Rawat Publications
- Adhikari,S. (2013) *Political Geography of India*. Allahabad:Sharda Pustak Bhawan
- Glassner, M. (1993) *Political Geography*. USA:Wiley
- Zamindar, V. F. (2013) *India-Pakistan Partition 1947 and forced migration*. Wiley Online Library <https://doi.org/10.1002/9781444351071.wbeghm285>
- Sibley, D. (2002) *Geographies of Exclusion*. Routledge
- DeSombre, E.R. (2020) *What is Environmental Politics?* Wiley

Suggestive:

- Cox, K. (2002) *Political Geography: Territory, State and Society*. USA: Wiley-Blackwell
- Gallaher, C. et al. (2009) *Key Concepts in Political Geography*. USA: Sage Publications
- Smith, S. (2020) *Political Geography: A Critical Introduction*. USA: Wiley-Blackwell
- Rosenbaum, W.A. (2022) *Environmental Politics and Policy 12th Edition*. CQ Press
- Dwivedi, R.L. and Misra, H.N. (2019) *Fundamentals of Political Geography*. Surjeet Publications.

DISCIPLINE SPECIFIC ELECTIVE COURSE –SOCIAL GEOGRAPHY (DSE 7)

Course title & Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
SOCIAL GEOGRAPHY	4	3	1	0	Class 12th	NIL

Learning Objectives

- To familiarise the student with the theoretical foundations of Social Geography.
- To help students appreciate how social diversity is manifested in socio-spatial patterns.
- To help student understand that social wellbeing is a spatially variable condition and appreciate its correlates.

Learning Outcomes:

On completion of the course, students will:

- understand the basic concepts of social geography, social diversity, social wellbeing and social exclusion/ inclusion.
- possess the knowledge of socio-cultural regions of India.

- understand patterns of social well-being, and welfare policies and programs in India.
- understand the relation between the process of social exclusion/inclusion and space.

Course Outline

Unit 1: Social Geography: (8 hrs)

- Origin, Nature and Scope; Concept of Social Space.

Unit 2 : Social Differences and Diversity: (10 hrs)

- Concepts; Socio- Cultural Regions, languageregions of India

Unit 3: Social Wellbeing: (9 hrs)

- Concept of Social Well Being; Needs and Wants; Components of Social Well Being: Healthcare, Education, Housing; Gender Equality in India.

Unit 4: Social Geographies of Exclusion and Inclusion: (9 hrs)

- Ethnicity, race, religion based social and spatial exclusion, Disability and Space.

Unit 5: Social Welfare Policies and Programs: (9 hrs)

- Policies for People with Disabilities, senior citizens and Transgenders.

Readings:

- Ahmed, A., (1999): Social Geography, Rawat Publications.
- Buttner, A., (1969): "Social Space in Interdisciplinary Perspective", Geographical Review, Vol. 59, No. 3
- Casino, V. J. D., Jr., (2009): Social Geography: A Critical Introduction, Wiley Blackwell.
- Cater, J. and Jones, T., (2000): Social Geography: An Introduction to Contemporary Issues, Hodder Arnold.
- Dutt, A.K., Thakur, B., Wadhwa, V., and Costa, F.J. (2012) Facets of Social Geography: International and Indian Perspective, Cambridge University Press India Ltd.
- Lefebvre, H., (1991): The Production of Space, Wiley-Blackwell.
- Maurya, S.D., (2022): सामाजिक भूगोल, Sharda Pustak Bhawan
- Panday, P and Singh, (2020): सामाजिक भूगोल, SBPD Publications
- Panelli, R., (2004): Social Geographies: From Difference to Action, Sage.
- Paine, R. Burke, M., Fuller, D., Gough, J., Macfarlane, R. and Mowl, G., (2001): Introducing Social Geographies, Oxford University Press.
- Ramotra, K.C., (2008): Development Processes and the scheduled Castes, Rawat Publication.
- Slum Almanac 2015-16- A UN Habitat Report
- Smith, D. M., (1977): Human geography: A Welfare Approach, Edward Arnold, London.
- Smith, D. M., (1994): Geography and Social Justice, Blackwell, Oxford.
- Smith, S. J., Pain, R., Marston, S. A., Jones, J. P., (2009): The SAGE Handbook of Social Geographies, Sage Publications.
- ☐ Soja, E.W., (1996): *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places*, Wiley-Blackwell.

- Soja, E.W., (1999): *Thirdspace: Expanding the Scope of the Geographical Imagination*, D. Massey, J. Allen, P.Sarre, Human Geography Today, Blackwell Publishers, Cambridge, UK,
- Soldatic, K., Morgan, H. and Roulstone, A., (2019): *Disability, Spaces and Places of Policy Exclusion*, Routledge.
- Sopher, David., (1980): *An Exploration of India*, Cornell University Press, Ithasa.
- Valentine, G., (2001): *Social Geographies: Space and Society*, Prentice Hall.

GENERAL ELECTIVE- WORLD REGIONAL GEOGRAPHY (GE 13)

Course title & Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
WORLD REGIONAL GEOGRAPHY	4	3	1	0	Class 12th	NIL

Learning Objectives:

- To provide a comprehensive understanding of the world's regions
- To develop an in-depth knowledge about the different regions and their distinctive features
- To understand the interconnectedness of global issues and global regions.

Learning Outcomes:

- Detailed exposure to the concept and nature of regions in geography.
- In-depth knowledge of different regions based on multidimensional criteria.
- Understanding the interrelationship of cultural and economic factors in creating regionscapes.
- Comprehending the intricate interwoven reality of regions through the case study approach of South Asia.

Course Outline

Unit 1- Introduction: (8 hrs)

- Concept of a Region, Classification of Regions- Formal (Natural,Cultural), Functional (Economic, Administrative) and Perceptual Regions (6 Hours)

Unit 2- Natural Regions: (10 hrs)

- Equatorial, Tropical, Temperate, Taiga, Tundra regions (Location,Climate, Natural Vegetation, Human and Economic life in these regions) (12 Hours)

Unit 3- Economic Regions: (9 hrs)

- Major industrial (manufacturing) regions of Asia, North America, South America, Europe and Africa (One Case Study from each continent) (10 Hours)

Unit 4- Cultural Regions: (9 hrs)

- Major Cultural Realms/Regions of the World as given by Russell and Kniffen, 1951 and Broek and Webb, 1967. (7 Hours)

Unit 5- Systematic study of South Asia: (9 hrs)

- Natural Divisions, Economy, Demography and Population Dynamics (10 Hours)

Readings

- Broek, J. O. M., Webb, J. W., & Hsu, M. L. (1968). A Geography of Mankind. New York: McGraw-Hill.
- De Blij, H. J., Muller, P. O., Nijman, J., & Schouten, F. G. (2012). Geography: Realms, Regions, and Concepts. Wiley.
- Goh, C. L. (1974). Certificate Physical and Human Geography. Oxford University Press.
- Hopkins, J., & Spillman, B. (2017). The Geography of the World Economy. Routledge.
- Jordan-Bychkov, T. G., Domosh, M., & Rowntree, L. (2013). The Human Mosaic: A Thematic Introduction to Cultural Geography. W. H. Freeman.
- Knox, P. L., & Marston, S. A. (2019). Human geography: Places and regions in global context. Pearson.
- Russell, R. J., & Kniffen, F. B. (1951). Culture Worlds. New York.
- Schwartzberg, J. E. (1978): A Historical Atlas of South Asia. The University of Chicago Press, Chicago and London.
- White, G. W., Bradshaw, M. J., Dymond, J., & White, G. (2011). Essentials of World Regional Geography. New York: McGraw-Hill.

Hindi

- Gautam, Alka. (2018): Vishwa ka Pradeshik Bhugol, Sharda Pustak Bhavan, Allahabad.

GENERAL ELECTIVE- GEOGRAPHY OF TRADE AND COMMERCE (GE 14)

Course title & Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
Geography of Trade and Commerce	4	3	1	0	Class 12th	NIL

Learning Objectives:

The learning objectives for the Course are as follows:

- To develop an understanding of the concepts relating to trade and commerce.
- To introduce major theories of trade
- To learn about spatial patterns and spatiality of trade regimes
- To appreciate the trajectory of India's international trade

Learning Outcomes:

The students will learn the following:

- to appreciate factors and barriers to international trade and commerce
- Students would be able to develop an understanding of the key theories of international trade
- Students would be able to identify the institutional mechanisms governing international trade and be exposed to actual case studies
- Students would be able to analyze the patterns of International Trade with reference to India

Course Outline

Unit 1: Introduction to Trade and Commerce: (8 hrs)

- Definition and Concepts- International trade, Commerce, Export/Import and Balance of trade; Factors affecting international trade; Barriers to international trade

Unit 2: Theories of Trade: (10 hrs)

- Classical Theories- David Ricardo's Comparative Advantage, Contemporary Theories- Paul Krugman's New Trade Theory

Unit 3: Trade Blocs and Institutional Bodies: (9 hrs)

- WTO, IMF and World Bank; Regional Trade Blocks: European Union, ASEAN, CACM, OPEC;

Unit 4: Impact of International Trade: (9 hrs)

- Case studies of Bangladesh garment industry and Brazil service trade

Unit 5: Patterns of International Trade with reference to India: (9 hrs)

- Volume of Trade ; Direction of Trade Flows ; Commodity Composition

Readings

- Batra, A. (2022). *India's Trade Policy in the 21st Century*. Routledge.
- Dee, M. (2015). *The European Union in a multipolar world: world trade, global governance and the case of the WTO*. Springer.
- Ernst, D., Ganiatsos, T., & Mytelka, L. (Eds.). (2003). *Technological capabilities and export success in Asia*. Routledge.
- ESCAP, U. (1995). *Development of the export-oriented electronics goods sector in Asia and the Pacific*.
- Gandolfo, G., & Trionfetti, F. (2014). *International trade theory and policy*. Berlin, Heidelberg, New York: Springer.
- Garavini, G. (2019). *The rise and fall of OPEC in the twentieth century*. Oxford University Press.
- Hoekman, B. M., Mattoo, A., & English, P. (Eds.). (2002). *Development, trade, and the WTO: a handbook (Vol. 1)*. World Bank Publications.
- Kathuria, S., & Malouche, M. M. (2015). *Toward New Sources of Competitiveness in Bangladesh: Key Insights of the Diagnostic Trade Integration Study*. World Bank Publications.
- Kobayashi, K., Rashid, K. A., Furuichi, M., & Anderson, W. P. (Eds.). (2017). *Economic integration and regional development: the ASEAN economic community*. Routledge.
- Krugman, P. R. (2018). *International trade: Theory and policy*. Pearson.
- Leong, G.H. and Morgan, G. C. (1982) *Human and Economic Geography*. Oxford University Press.
- Lopez-Acevedo, G., & Robertson, R. (Eds.). (2016). *Stitches to riches?: Apparel employment, trade, and economic development in South Asia*. World Bank Publications.
- Michael, P. Todaro, and C. Smith Stephen (2000). *Economic Development*. Pearson.
- Peet, R. (2009). *Unholy trinity: the IMF, World Bank and WTO*. Bloomsbury Publishing.
- Pereira, L. V., Sennes, R. U., & Mulder, N. (2009). *Brazil's emergence at the regional export leader in services: a case specialization in business services*. ECLAC.
- Rahman, S. (2013). *Broken promises of globalization: The case of the Bangladesh garment industry*. Lexington Books.
- Raychauduri, A., De, P., & Gupta, S. (Eds.). (2020). *World Trade and India: Multilateralism, Progress and Policy Response*. Sage Publications Pvt. Limited.
- Seymour, I. (1980). *OPEC: instrument of change*. Springer.
- Sinha, V.C. (2015). *अंतर्राष्ट्रीय व्यापार और षित्त*. Mayur Paperbacks: Ghaziabad.
- Suranovic, S. (2010). *International trade: Theory and policy*.
- Thoman, R. S., & Conkling, E. C. (1967). *Geography of International Trade*. Prentice-Hall.
- Veeramani, C., & Nagaraj, R. (Eds.). (2018). *International trade and industrial development in India: Emerging trends, patterns and issues*. Orient BlackSwan.
- Yadav, P. (2021). *Geographical perspectives on international trade*. Springer International Publishing.

GENERAL ELECTIVE- CLIMATE CHANGE AND ADAPTATION (GE 15)

Course title & Code	Credits	Duration (per week)			Eligibility Criteria	Prerequisite
		Lecture	Tutorial	Practical/ Practice		
CLIMATE CHANGE AND ADAPTATION	4	3	1	0	Class 12th	NIL

Learning Objectives:

The course deals with a critical global concern. The key objectives are:

- To explain various dimensions of climate change.
- To develop a detailed analysis of vulnerability and its impacts.
- To discuss the importance of mitigation and adaptation strategies.
- To evaluate the role of global initiatives and policies for climate change.

Learning Outcomes:

On transacting the course students will have an in-depth knowledge of the following:

- Anthropogenic Climate Change and related issues
- Geographic dimensions of vulnerability.
- Impact of climate change, adaptation and mitigation
- Need for effective policy making

Course Outline

Unit 1: Understanding Climate Change: (9 hrs)

- Natural and Anthropogenic causes and evidences

Unit 2: Climate Change and Vulnerability: (9 hrs)

- Physical, Economic and Social Vulnerability

Unit 3: Impact of Climate Change: (10 hrs)

- Ecosystem-Terrestrial and Aquatic; Agriculture and Food Security

Unit 4: Global Initiatives for Adaptation and Mitigation: (9 hrs)

- National and international case studies

Unit 5: Climate Change Policy: (8 hrs)

- Framework from Kyoto to Paris: Role of IPCC;UNFCCC and COPs

Readings

- IPCC. *Climate Change 2022: Impacts, Adaptation, and Vulnerability. SIXTH Assessment Report of the Intergovernmental Panel on Climate Change*. NY, USA:Cambridge University Press, Cambridge, United Kingdom and New York.
- Trevor. M. Letcher (edited) 2009: *Climate Change: Observed impacts on Planet Earth*
- Narain.S 2021:*Climate Change Science and Politics. Centre for Science andEnvironment*
- Sarah L. Burch and Sara E. Harris: *Understanding Climate Change: Science, Policy andPractice*
- Sen, Roy, S., and Singh, R.B., (2002). *Climate Variability, Extreme Events and Agricultural Productivity in Mountain Regions*. Delhi, India: Oxford & IBH Pub.
- Leary Neil and others, 2008: *Climate Change and Adaptation*
- OECD. (2008). *Climate Change Mitigation: What do we do?* (Organization andEconomic Co-operation and Development).
- UNEP. (2007). *Global Environment Outlook: GEO4: Environment for Development*.Nairobi, Kenya: United Nations Environment Programme.
- Reddy M.A, Vijay Lakshmi T “*Climate Change:Vulnerability and Adaptation*”