Indraprastha College for Women
University of Delhi

Course Name:	BAP GRP-4, B.A. Geography
Paper Title:	Environmental Science: Theory into Practice II
Unique Paper Code:	2181002001
Semester:	III
Faculty(s):	Viniti Nagar
Year:	2026

Work Plan (Theory)			
Unit No.	Learning Objective	Lecture No.	Topics to be Covered
1	Understanding of Global Environmental Issues and Policies	1	Causes of Climate change, Global warming, Ozone layer depletion, and Acid rain; Impacts on human communities, biodiversity, global economy, and agriculture
		2	International agreements and programmes: Earth Summit, UNFCCC, Montreal and Kyoto protocols, Convention on Biological Diversity (CBD), Ramsar convention, The Chemical Weapons Convention (CWC), UNEP, CITES, etc.
		3	Sustainable Development Goals: India's National Action Plan on Climate Change and its major missions.
		4	Environment legislation in India: Wildlife Protection Act, 1972; Water (Prevention and Control of Pollution) Act, 197 4; Forest (Conservation) Act 1980; Air (Prevention & Control of Pollution) Act, 1981; Environment Protection Act, 1986; Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006
II	Understand and apply the scientific concept of Biodiversity and its threat and conservation.	5	Definition of Biodiversity; Levels of biological diversity: genetic, species and ecosystem diversity.
		6	India as a mega-biodiversity nation; Biogeographic zones of India; Biodiversity hotspots; Endemic and endangered species of India; IUCN Red list criteria and categories
		7	Value of biodiversity: Ecological, economic, social, ethical, aesthetic, and informational values of biodiversity with examples; sacred groves and their importance with examples
		8	Threats to biodiversity: Habitat loss, degradation, and fragmentation; Poaching of wildlife; Man-wildlife conflicts; Biological invasion with emphasis on Indian biodiversity; Current mass extinction crisis

		9	Biodiversity conservation strategies: in-situ and ex-situ methods of conservation; National Parks, Wildlife Sanctuaries, and Biosphere reserves; Keystone, Flagship, Umbrella, and Indicator species; Species reintroduction and translocation
		10	Case *studies:* Contemporary Indian wildlife and biodiversity issues, movements, anq projects (e.g., Project Tiger, Project Elephant, Vulture breeding program, Project Great Indian Bustard, Crocodile conservation project, Silent Valley movement, Save Western Ghats movement, etc)
III	Understanding of Human population and its impact on Environment.	11	Human population growth: Impacts on environment, human health, and welfare: Carbon footprint
		12	Resettlement and rehabilitation of developmental project affected persons and communities; relevant case studies
		13	Environmental movements: Chipko movement, Appiko movement, Silent valley movement, Bishnois of Rajasthan, Narmada Bachao Andolan, etc
		14	Environmental justice: National Green Tribunal and its importance
		15	Environmental philosophy: Environmental ethics; Role of various religions and cultural practices in environmental conservation
		16	Environmental communication and public awareness: case studies (e.g. , CNG vehicles in Delhi, Swachh Bharat Abhiyan, National Environment Awareness Campaign (NEAC), National Green Corps (NGC) "Eco-club" programme, etc)

Work Plan (Practical)			
Unit No.	Learning Objective	Lecture No.	Topics to be Covered
I	Global Environmental Issues and Policies	1	Depict temperature/precipitation trend of a given study area using online data
		2	Submission and correction
		3	Assess Nationally Determined Contributions (NDCs) of developed and developing countries
		4	Assess Nationally Determined Contributions (NDCs) of developed and developing countries
		5	Submission and correction
		6	Identify carbon footprint of your college/home/locality (refer wwf@envis.nic.in).

III	Biodiversity and Conservation	7	Acquaintance with open-source databases of biodiversity
		8	Submission and correction
		9	Depict distribution of biodiversity across latitude and altitude
		10	Sampling of plant and animal biodiversity of the College campus
		11	Submission and correction
		12	Identification of the floral diversity of Delhi and other states.
		13	Submission and correction
IV	Human Communities and the Environment	14	Formulation of questionnaire/online surveys for assessment of the impact of environmental education
		15	Correlation analysis of human population growth and impacts on the environment and human health
		16	Submission and correction

Syllabus		
Unit	**Contents**	**Contact Hours**
I	**Global Environmental Issues and Policies:** Causes of Climate change, Global warming, Ozone layer depletion, and Acid rain; Impacts on human communities, biodiversity, global economy, and agriculture International agreements and programmes: Earth Summit, UNFCCC, Montreal and Kyoto protocols, Convention on Biological Diversity (CBD), Ramsar convention, The Chemical Weapons Convention (CWC), UNEP, CITES, etc. Sustainable Development Goals: India's National Action Plan on Climate Change and its major missions Environment legislation in India: Wildlife Protection Act, 1972; Water (Prevention and Control of Pollution) Act, 197 4; Forest (Conservation) Act 1980; Air (Prevention & Control of Pollution) Act, 1981; Environment Protection Act, 1986; Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006	4
II	**Biodiversity and Conservation:** Definition of Biodiversity; Levels of biological diversity: genetic, species and ecosystem diversity India as a mega-biodiversity nation; Biogeographic zones of India; Biodiversity hotspots; Endemic and endangered species of India; IUCN Red list criteria and categories Value of biodiversity: Ecological, economic, social, ethical, aesthetic, and informational values of biodiversity with examples; sacred groves and their importance with examples Threats to biodiversity: Habitat loss, degradation, and fragmentation; Poaching of wildlife; Man-wildlife conflicts; Biological invasion with emphasis on Indian biodiversity; Current mass extinction crisis	6

	Biodiversity conservation strategies: in-situ and ex-situ methods of conservation; National Parks, Wildlife Sanctuaries, and Biosphere reserves; Keystone, Flagship Umbrella, and Indicator species; Species reintroduction and translocation Case *studies:* Contemporary Indian wildlife and biodiversity issues, movements, and projects (e.g., Project Tiger, Project Elephant, Vulture breeding program, Project Great Indian Bustard, Crocodile conservation project, Silent Valley movement, Save Western Ghats movement, etc)	
III	**Human Communities and the Environment:** Human population growth: Impacts on environment, human health, and welfare; Carbon foot-print Resettlement and rehabilitation of developmental project affected persons and communities; relevant case studies Environmental movements: Chipko movement, Appiko movement, Silent valley movement, Bishnois of Rajasthan, Narmada Bachao Andolan, etc Environmental justice: National Green Tribunal and its importance Environmental philosophy: Environmental ethics; Role of various religions and cultural practices in environmental conservation Environmental communication and public awareness: case studies (e.g. , CNG vehicles in Delhi, Swachh Bharat Abhiyan, National Environment Awareness Campaign (NEAC), National Green Corps (NGC) "Eco-club" programme, etc)	6
	Total	**16**

Text Books/Suggested Readings:

S. No.	Name of Authors/Books/Publishers	Year of Publication/ Reprint
1.	Raven, P.H, Hassenzahl, D.M., Hager, M.C, Gift, N.Y., and Berg, L.R. Environment, 8th Edition. Wiley Publishing, USA.	2015
2.	Singh, J.S., Singh, S.P., and Gupta, S.R. Ecology, Environmental Science and Conservation. S. Chand Publishing, New Delhi.	2017
3.	Brusseau, M.L., Pepper, I.L. and Gerba, C.P. Environmental and Pollution Science, 3rd Edition. Academic Press, USA.	2019
4.	Carson, R. Silent Spring. Houghton Mifflin Harcourt, USA. Pp. 1-264.	2002
5.	Divan, S. and Rosencranz, A. (2002). Environmental Law and Policy in India: Cases, Material & Statutes, 2nd Edition. Oxford University Press, India.	2002

	Paper Components		
Credits	**Lecture (L)**	**Tutorial (T)**	**Practical (P)**

2	**1**	**-**	**1**
Assessment Scheme			
S.No.	**Component**	**Marking Scheme**	**Total Marks**
1	Internal Assessment • Assignment/Quiz/Project/ Presentation • Class Test • Attendance	 4 4 2	**10**
2.	Continuous Assessment (**Tutorial)** • Activity 1 • Activity 2 • Attendance	 	NA
3.	Practical • Continuous Assessment • End Term Written/Practical Exam • Viva	 40 (4 activity, 10 marks each) 	40
4.	End Semester Examination		30