

University of Calcutta Under Graduate Curriculum under CVAC
Lesson Plan with Syllabus for Common Value Added Courses
on Environmental Studies

ENVS01: Fundamentals of Environment

Total Marks-50 (Credit -2)

(50 Theory: MCQ [1x10=10] + SAQ type [2x10=20]+LAQ type [5x4=20])

[Marks obtained in this course will be taken to calculate SGPA & CGPA]

Tentative, may subject to change:		
Course: Semester-I ENVS01: Fundamentals of Environment		
Unit	Chapter wise Syllabus Content	No. of Lecture
1	<i>Introduction to environmental studies:</i> <ul style="list-style-type: none"> •Multidisciplinary nature of environmental studies; •Scope and importance; 	3
	<ul style="list-style-type: none"> •Concept of sustainability, sustainable development And Sustainability Goals • Low Carbon Lifestyle, Mission LIFE 	
2	<i>Ecology and Ecosystems:</i> <ul style="list-style-type: none"> •Concept of ecology, ecosystem and Ecosystem Services •Structure and function of ecosystem; •Energy flow in an ecosystem; •Ecological Pyramid •Food chains, food webs (Terrestrial and Aquatic Ecosystem); 	7
	<ul style="list-style-type: none"> •Concept of population and community ecology; •Ecological succession. 	
	<ul style="list-style-type: none"> •Characteristic features of the following: a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems (ponds, streams, lakes, wetlands, rivers, oceans, estuaries) 	
03	<i>Natural Resources:</i> <ul style="list-style-type: none"> • Concept of Renewable and Nonrenewable resources • Land resources and land use change; Land degradation, soil erosion and desertification. •Forest Resource Importance, Deforestation: Causes, consequences and remedial measures •Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). 	

Continue..

Tentative, may subject to change:		
Course: Semester-I ENVS01: Fundamentals of Environment		
Unit	Chapter wise Syllabus Content	No. of Lecture
3	Natural Resources: <ul style="list-style-type: none"> •Energy resources: Environmental impacts of energy generation, use of alternative and nonconventional energy sources, Green Energy. •Natural Resource Accounting 	6
4	Biodiversity Conservation: <ul style="list-style-type: none"> •Levels of Biological Diversity : Genetic, Species, and Ecosystem Diversity • Biogeographic zones of India, Biodiversity Hotspots, Endemism. •India as a mega-biodiversity nation; Endangered and endemic species of India 	7
	<ul style="list-style-type: none"> •Threats to biodiversity, IUCN Threat Categories, Habitat loss, poaching of wildlife, man/wildlife conflicts, biological invasions; •Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity, Protected Area Network 	
	<ul style="list-style-type: none"> •Role of Indigenous Communities in Biodiversity Conservation, Peoples Biodiversity Register, Bio-prospecting 	
5	Environmental Pollution: <ul style="list-style-type: none"> • Environmental pollution: concepts and types, • Air pollution- causes, effects and controls. 	7
	<ul style="list-style-type: none"> • Water and Soil pollution- causes, effects and 	
	<ul style="list-style-type: none"> •Noise pollution- causes, effects and controls. 	
	<ul style="list-style-type: none"> •Marine pollution- causes, effects and controls. 	
	<ul style="list-style-type: none"> •Acid rain, Black lung, Black foot, PAN, DDT, BOD, COD, Bioaccumulation, Biomagnification, Minamata 	

Section: Semester- I : BA (Hons), BA (Gen), BSc (Hons+Gen), BCom(Hons), BCom (Gen)

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ENVS02: Environment Education

Total Marks-50 (Credit -2)

(50 Theory: MCQ [1x10=10] + SAQ type [2x10=20]+LAQ type [5x4=20])

[Marks obtained in this course will be taken to calculate SGPA & CGPA]

Tentative, may subject to change:		
Course: Semester-II ENVS02: Environment Education		
Unit	Chapter wise Syllabus Content	No. of Lecture
1	<i>Environmental Education:</i> •Concept, Definition and Significance of Environmental Education; <i>Environment Protection Act;</i> <i>Biodiversity Act.</i> •Genesis of Environmental Education, Tiblisi Declaration 1977.	4
	•Philosophy of Environmental Education •Environmental Awareness vis a vis Environmental Education	
2	<i>Rules and Regulations of Environment:</i> •Necessity of Rules and Regulation, Different types of Rules and Regulations Mistakes in Implementing of Environmental Rules	6
	•Environment Laws in India: <i>Wildlife Protection Act;</i> <i>Forest Conservation Act.</i> Water (Prevention and control of Pollution) Act; Air (Prevention & Control of Pollution) Act; <i>Environment Protection Act;</i> <i>Biodiversity Act.</i> •International agreements: Montreal Protocol, Kyoto protocol and climate negotiations; Convention on Biological Diversity (CBD).	
3	<i>Human Communities and the Environment:</i> •Human population growth: Impacts on environment, human health and welfare. •Concept of Resettlement and Rehabilitation. •Environmental movements: Bishnois, Chipko, Silent valley, Narmada-Tehri Big Dam movements.	6
	•Environmental ethics: Types, Ecofeminism, Role of cultures in environmental conservation.	

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Tentative, may subject to change:		
Course: Semester-II ENVS02: Environment Education		
Unit	Chapter wise Syllabus Content	No. of Lecture
4	Disaster Awareness: <ul style="list-style-type: none"> •Fundamentals of Hazard, Disaster, Risk and Vulnerability • Disaster classification, Natural DisasterFloods, Earthquake, Cyclones, Tsunami and Landslide. Manmade Disaster. •Case studies: Minamata Disaster, Bhopal Gas Disaster, Fukushima Nuclear Disaster, Kedarnath Flood, Cyclone Aila, COVID-19 	8
	<ul style="list-style-type: none"> •Disaster Management, Disaster Warning System; 	
5	Role of Environmental Education in Protecting Environment: <ul style="list-style-type: none"> •Lifelong Learning Procedure, Pedagogy in Environmental Education, • Formal and Informal Environmental Education: Exhibition, Role playing Ability, Quiz, Debate, Fields Trip, Demonstration, Project, Poster 	8
	<ul style="list-style-type: none"> •Role of NGOs and Government Institution •Philosophy of Environmental Education •Role of Information Technology and Mass-media: Print, Electronic and Social Media 	

Section: Semester- II : BA (Hons), BA (Gen), BSc (Hons+Gen), BCom(Hons), BCom (Gen)

Suggested Reading:

- § Chatterjee, S, Datta R.K. (2023). *Parivesh Vidya* (Bengali).P.Rabin & Co, Kolkata.
- § Chatterjee, S, Datta R.K. (2023). *Environmental Studies*(Eng).P.Rabin & Co, Kolkata.
- § Chaudhury, Giri, Santra. (2023). *Snatak Parivesh Sikkha* (Bengali). Santra, Kolkata.
- § Das, S. (2023). *Environmental Education*. Sanjib Prakashan, Kolkata.
- § Pandab, S.K. (2023). *Environmental Studies*. Lawpoint's, India.
- § Ghosh, A. (2023). *Probable Ques. With Ans. On Environmental Studies* (Bengali). Suhrid Book Stall, Kolkata
- § Chottopadhyay, A. (2023). *Parivesh* (Bengali). T D Publication, Kolkata
- § Asthana, D. K. (2006). *Text Book of Environmental Studies*. S. Chand Publishing.
- § Basu, M., Xavier, S. (2016). *Fundamentals of Environmental Studies*, Cambridge University Press, India.
- § Basu, R. N., (Ed.) (2000). *Environment*. University of Calcutta, Kolkata. § Bharucha, E. (2013). *Textbook of Environmental Studies for Undergraduate Courses*. Universities Press.
- § De, A.K., (2006). *Environmental Chemistry*, 6th Edition, New Age International, New Delhi.
- § Mahapatra, R., Jeevan, S.S., Das, S. (Eds) (2017). *Environment Reader for Universities*, Centre for Science and Environment, New Delhi.
- § Masters, G. M., &Ela, W. P. (1991). *Introduction to environmental engineering and science*. Englewood Cliffs, NJ: Prentice Hall.
- § Odum, E. P., Odum, H. T., & Andrews, J. (1971). *Fundamentals of ecology*. Philadelphia: Saunders.
- § Sharma, P. D., & Sharma, P. D. (2005). *Ecology and environment*. Rastogi Publications.

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