## **GOUR MAHAVIDYALAYA**

## **Department of Mathematics**

ACCREDITED BY NAAC (2nd cycle) B+



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All the students of Honours Course of the Department of Mathematics take the course AEC1(Ability Enhancement Compulsory) during their Semester-I Course which contains Cross cutting issue and Professional Ethics as described below.

## Cross cutting issue:

Semester	Paper	Unit	Sub-Topic	Teacher
I	AEC1	Unit 1: Introduction to Environmental Studies	Definition, Nature, Scope and Importance of Environmental studies, Multidisciplinary nature of Environmental studies, Types and Components of Environment.	Prabir Das
		Unit 2: Natural Resources: Renewable and Non-renewable Resources	• Energy resources: Renewable and non-renewable resources, use of alternative energy sources, growing energy needs case studies.	Satyajit Paul
		,	Water resources:     Distribution of water on earth, use and over exploitation of water on earth, floods, drought, conflicts over water (international and national), Dams — benefits and problems.	Dr. Syfujjaman Tarafder
			<ul> <li>Forest Resources: Types and importance of forest resources, use and over exploitation, Deforestation and its effects. Conservation and protection of Forest, Wild life management.</li> <li>Mineral resources: Types</li> </ul>	Prajesh Datta
			<ul> <li>Mineral resources: Types and importance of minerals</li> </ul>	Prabir Das

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	and exploitation, effect of extraction on environment.	
Unit 3: Ecosystem	<ul> <li>Concept of an ecosystem, structure and function of an ecosystem, different types of ecosystems: Forest, grassland, desert, aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries). Energy flow in an ecosystem, food chain, food webs and ecological pyramids, energy flow models.</li> <li>Definition and classification of biomes, ecological succession, biogeochemical cycles, pattern and basic types, biogeochemical cycles of nitrogen and phosphorous.</li> </ul>	Dr. Syfujjaman Tarafder Dr. Syfujjaman Tarafder
Unit 4: Biodiversity and its Conservations	• Definition, levels of biodiversity, genetic, species and ecosystem diversity, Biodiversity hotspot and Mega biodiversity countries: an overview, Value of biodiversity, Threats to biodiversity, Manwildlife conflicts, Biological - invasions.	Prajesh Datta
	• Convention of biodiversity: insitu and ex-situ conservations, endangered and endemic species(plants and animals).	Dr. Syfujjaman Tarafder
	<ul> <li>Air, water, soil and noise pollution causes and consequences</li> </ul>	Prajesh Datta
	•Thermal, nuclear and marine pollution causes, present status and consequences.	
	•Solid waste management causes, effects and control of urban and industrial wastes.	Dr. Syfujjaman Tarafder
	Role of an individual in prevention of pollution.	
	Pollution: case studies.	by.

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	Disaster management: flood, earthquake, cyclone and landslides.	
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## **Professional Ethics:**

Semester	Paper	Unit	Sub-Topic	Teacher
l	AÈCI	Unit 7: Human Communities and the Environment.	<ul> <li>Environmental ethics: role of religions and cultures in environmental conservations.</li> <li>Environment and human health: Concept of human hygiene and different vector borne diseases.</li> <li>Human rights, Value education and role of information technology in environmental communication and public awareness.</li> </ul>	Prajesh Datta  Dr. Syfujjaman Tarafder

( Rakesh Sarkar)

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