

Programme code : 04				
Title of the paper		PART IV – ENVIRONMENTAL STUDIES		
Batch	Semester	Hours / Week	Total Hours	Credits
2022 - 2023	I	2	30	2
Course Objectives				
1.	The course will provide students with an understanding and appreciation of the complex interactions of man, health and the environment. It will expose students to the multi-disciplinary nature of environmental health sciences			
2.	To inculcate knowledge and create awareness about ecological and environmental concepts, issues and solutions to environmental problems.			
3.	To shape students into good “Ecocitizens” thereby catering to global environmental needs.			
4.	This course is designed to study about the types of pollutants including gases, chemicals petroleum, noise, light, global warming and radiation as well as pollutant flow and recycling and principles of environmental pollution such as air, water and soil			
5.	The course will address environmental stress and pollution, their sources in natural and workplace environments, their modes of transport and transformation, their ecological and public health effects, and existing methods for environmental disease prevention and remediation			
Course Outcomes (CO)				
K1 – K5	CO1	Understand how interactions between organisms and their environments drive the dynamics of individuals, populations, communities and ecosystems.		
	CO2	Develop an in depth knowledge on the interdisciplinary relationship of cultural, ethical and social aspects of global environmental issues.		
	CO3	Acquiring values and attitudes towards complex environmental socio-economic challenges and providing participatory role in solving current environmental problems and preventing the future ones.		
	CO4	To gain inherent knowledge on basic concepts of biodiversity in an ecological context and about the current threats of biodiversity.		
	CO5	To appraise the major concepts and terminology in the field of environmental pollutants, its interconnections and direct damage to the wildlife, in addition to human communities and ecosystems.		
UNIT – I		MULTIDISCIPLINARY NATURE OF ENVIRON -MENT		6 Hours
Definition: scope and importance – Need for public awareness - Natural resources – Types of				

resources – Forest Resources – Water Resources – Mineral Resources – Food Resources – Energy Resources – Land Resources.		
UNIT-II	ECOSYSTEMS	6 Hours
Concept of an ecosystem – Structure and functions of an ecosystem – Procedures, consumers and decomposers – Energy flow in the ecosystem – Ecological succession – Food chains, food web and ecological pyramids – Structure and function of the following ecosystem – Forest Ecosystem – Grassland Ecosystem – Desert Ecosystem – Aquatic Ecosystem.		
UNIT-III	BIODIVERSITY AND ITS CONSERVATION	6 Hours
Introduction – Definition – Genetic – Species and ecosystem diversity- Bio geographical classification of India – Value of biodiversity – Biodiversity at global, national and local levels – India as a mega - diversity Nation - Hot spot of biodiversity – Threats to biodiversity - Endangered and endemic species of India – Conservation of Biodiversity – insitu Conservation of Biodiversity – <i>Exsitu</i> Conservation of Biodiversity.		
UNIT-IV	ENVIRONMENTAL POLLUTION	6 Hours
Definition - Causes, effects and control measures of: Air Pollution – Water Pollution – Soil Pollution – Marine Pollution – Noise Pollution – Thermal Pollution – Nuclear Pollution – Solid Waste Management: Causes, effects, control measures of urban and industrial wastes – Role of individual in prevention of pollution – Pollution case studies – domestic waste water, effluent from paper mill and dyeing, cement pollution – Disaster Management – Food, Drought, Earthquake, Tsunami, Cyclone and Landslide.		
UNIT-V	SOCIAL ISSUES AND THE ENVIRONMENT	6 Hours
Sustainable Development – Urban problems related to energy – Water Conservation: Rain Water Harvesting and Watershed Management – Resettlement and rehabilitation of people, its problems and concerns, case studies Narmatha Valley Project – Environmental ethics, issues and possible solutions – Climate change, global warming, ozone layer depletion, acid rain, nuclear accidents and holocaust, case studies – Hiroshima and Nagasaki, Chernobyl – Consumerism and waste products – Environmental Protection Act – Air Pollution Act (Prevention and Control) – Water Pollution Act (Prevention and control) – Wild Life Protection Act – Forest Conservation Act – Issues involved in enforcement of environmental legislation – Public awareness – Human Population and the environment – Population Growth and Distribution – Population Explosion – Family Welfare Programme – Environment and Human Health – Human Rights – Value Education – HIV/ AIDS – Women and Child Welfare – Role of Information Technology in Environment and Human Health.		

Teaching Methods: Smart Class Room/ Power point Presentation/ Seminar/ Quiz/ Discussion/ Flipped Class

TEXT BOOKS:

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| 1. | P.Arul, A Text Book of Environmental Studies, Environmental Agency, No 27, Nattar street, Velacherry main road, Velacheery, Chennai – 42, First Edition, Nov.2004. |
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REFERENCE BOOKS:

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| 1. | Purohit Shammi Agarwal, A text Book of Environmental Sciences, Publisher Mrs.Saraswati Prohit, Student Education , Behind Naswan Cinema Chopansi Road, Jodhpur. |
| 2. | Dr.Suresh and K.Dhameja, Environmental Sciences and Engineering, Publisher S.K.Kataria & Sons, 424/6, Guru Nanak Street, Vaisarak, Delhi -110 006. |
| 3. | J.Glynn Henry and Gary W Heinke, Environmental Science and Engineering, Prentice Hall of India Private Ltd., New Delhi – 110 001. |

Question Paper Pattern**(External only)****Duration: 3 Hours****Total Marks: 50****Answer all Questions (5 x 10 = 50 Marks)**

Essay type, either or type questions from each unit.