(Bachelor Of Sciences)
Semester (I)

Course Code	US01SENV51	Title of the Course	ENVIRONMENTAL STUDIES-1
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	The Environmental Studies minor supplements other majors to facilitate students' understanding of complex environmental issues from a problem-oriented, interdisciplinary perspective. Students: 1. Appreciate concepts and methods from ecological and physical sciences and their application in environmental problem solving. 2. Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems. 3. Reflect critically about their roles and identities as citizens, consumers and environmental actors in a complex, interconnected world.

Course Content		
Unit	Description	Weightage* (%)
1.	**Unit I: The Environment and Ecosystem** 1.1 Environment and Environmental studies: Definition, concept, components and importance. 1.2 Ecosystem and Ecology: Structure and Function of ecosystem, Brief concept of Autecology and Synecology. 1.3 Food chain, food web and ecological pyramids . 1.4 Biogeochemical cycles in an ecosystems: (Carbon, Nitrogen and Phosphorous cycle) 1.5 Ecological succession: Definition, types, concept and process (Hydrosere, Xerosere and Lithosere).	50%
2.	**Unit 2 Environmental Pollution and Disaster Management** 2.1 Definition , causes, effects and control measures of : a. Air pollution b. Water pollution(thermal and marine pollution)	50%

	c. Land pollution d. Radiation pollution and Nuclear hazard. e. Noise pollution 2.2 Solid waste management: Causes , effects and control measures. 2.3 Global warming and climate change Ozone depletion 2.4 Acid rain: Causes , effects and control measures 2.5 Types and management of Natural disasters (Earthquakes; Droughts; Floods; Landslides).	

Teaching-Learning Methodology	Classroom interactions Multimedia presentation Chart/model presentation Student seminar and unit test, quiz etc Question bank circulation Students assignments Student counselling for any problem of subject understanding Student-Teacher interaction on social media platform for any query (MS team, Google classroom, email, etc)

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal exam(only for BCA)	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3) Only for BCA	15%
3.	University Examination(only for BCA)	70%
4	For B.Sc.Students(only University Examination)	100%

Course Outcomes: The course will empower the undergraduate students by:	
1.	Gaining in-depth knowledge on natural processes that sustain life and govern economy
2.	Predicting the consequences of human actions on the web of life, global economy and quality of human life.
3.	Acquiring values and attitudes towards understanding complex environmental economic-social challenges, and participating actively in solving current environmental problems and preventing the future ones.
4.	Adopting sustainability as a practice in life, society and industry

Suggested References:	
Sr. No.	References
1.	Odum, E. P. (2005). Fundamentals of ecology. Cengage Learning India Pvt. Ltd., New Delhi. 5thedition.
2.	Singh, J. S., Singh, S. P., Gupta, S. (2006). Ecology Environment and Resource Conservation. Anamaya Publications, New Delhi, India.
3.	Sharma, P. D. Ecology and Environment. Rastogi Publications, Meerut, India. 13th edition.
4.	Wilkinson, D. M. (2007). Fundamental Processes in Ecology: An Earth Systems Approach. Oxford University Press. U.S.A.
5.	Kormondy, E. J. (1996). Concepts of ecology. PHI Learning Pvt. Ltd., Delhi, India. 4th edition

On-line resources to be used if available as refe
On-line Resources
Shodhganga
https://www.khanacademy.org/science/environmental

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