

VAC 2 B23-VAC-201

Session: 2023-24			
Part A - Introduction			
Subject	Environmental Science		
Semester	I/ II		
Name of the Course	Environmental Studies		
Course Code	B23-VAC-201		
Course Type: (CC/MCC/MDC/CC-M/DSEC /VOC/DSE/PC/AEC/VAC)	VAC		
Level of the course (As per Annexure-I)	100-199		
Pre-requisite for the course (if any)	NA		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: 1. Understand the concept of environmental studies, sustainable development and ecosystem. 2. Learn about the various natural resources and about biodiversity and its conservation. 3. Know about the types of pollution, solid waste management, global environmental issues and environmental laws. 4. Understand the concept of population growth and its impacts on environment and disaster management.		
Credits	Theory	Practical	Total
	2	NA	2
Contact Hours	2	NA	2
Max. Marks: 50 Internal Assessment Marks: 15 End Term Exam Marks: 35		Time: 3 hours	

Part B- Contents of the Course		
<u>Instructions for Paper- Setter</u> Total number of questions set will be nine. Questions no. 1 is compulsory covering the entire syllabus. Two questions will be set from each unit. Students have to attempt five questions in all, selecting one question from each unit including the compulsory question. Each question is of 7 marks. All questions carry equal marks. Final theory exam time allowed will be of 3 hours.		
Unit	Topics	Contact Hours
I	Introduction to environmental studies: Multidisciplinary nature of environmental studies; Scope and importance; Concept of sustainability and sustainable development. Ecosystems: Definition, structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs, Major ecosystems types: Forest ecosystem, Grassland ecosystem, Desert ecosystem and Aquatic ecosystem (lakes, rivers, oceans).	6
II	Natural resources: Renewable and Non- renewable Resources Land resources: Land degradation and soil erosion. Forest resources: Importance of forests, deforestation: causes and impacts on environment. Water resources: Use and over- exploitation of surface and ground water. Energy resources: Renewable and non- renewable energy sources. Biodiversity and Conservation: Definition and its types, Endangered and endemic species of India. Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation biodiversity: <i>In-situ</i> and <i>Ex-situ</i> conservation of biodiversity. Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and informational values.	9

III	Environmental pollution Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution. Solid waste management: Sources, methods of disposal: Landfill, incineration and composting. Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture. Environmental Policies & Practices Environmental laws: Environment (Protection) Act, 1986, Air (Prevention & Control of Pollution) Act, 1981, Water (Prevention and control of Pollution) Act, 1974.	8
IV	Human Communities and the Environment: Human population growth: Impacts on environment, human health and welfare. Resettlement and rehabilitation of project affected person. Disaster management: floods, earthquake, cyclones, landslides and drought. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.	7
Suggested Evaluation Methods		
Internal Assessment:15 marks ➤ Theory • Class Participation: 4 marks • Seminar/presentation/assignment/quiz/class test etc.: 4marks • Mid-Term Exam: 7 marks		End Term Examination: Theory: 35 marks (Written exam)
Part C-Learning Resources		
Recommended Books/e-resources/LMS: 1. Kaushik, A & Kaushik, C.P. 2022. Perspectives in Environmental Studies. New Age International Pvt Ltd, New Delhi. 2. Bharucha, E. 2021. A Textbook of Environmental Studies for Undergraduate Courses, Orient Blackswan Pvt Ltd. 3. Goswami, P., Mandal, J. & Singh, S. 2022. A Textbook on Environmental Studies, Ashok book stall, Assam. 4. Joshi, P.C. & Joshi, N. 2009. A Text Book of Environmental Science. APH Publishing Corporation. 5. Basu, M. & Xavier Savarimuthu, S.J. 2017. Fundamentals of Environmental Studies. Cambridge University Press. 6. Singh, R.P. & Islam, Z. 2012. Environmental Studies. Concept Publishing Company.		