S. S. Jain Subodh P.G. (Autonomous) College, Jaipur

Semester II -B. Com. / B. Com ABST / B.Com. Adm / B.Com. EAFM

Value Added Course (VAC)

Environmental Studies

Nodal Department: Environmental Science

SchemeofExamination

PaperCode	PaperTitle	Credits	Max.Marks	Min. Marks
	Environmental Studies	02	50	20

InternalAssessment:15Marks
EndSemesterExamination:
35Marks Time Duration: 2
hours
Total:50 Marks

Objective:

In spite of the deteriorating status of the environment, study of environment has so far not received adequate attention in our academic programmes. This programme aims at giving students a clear understanding of environmental concerns and to follow sustainable development practices. This will definitely help students develop an interdisciplinary global understanding of ecological and environmental problems

Course Out comes

At the end of the course,students will –

- Gain in-depth knowledge of natural processes and resources that sustain life and govern the economy.
- Develop critical thinking to shape strategies (scientific, social, economic, administrative, and legal) for environmental protection, conservation of biodiversity, protection of natural resources and sustainable development.
- Understand and predict the consequences of human actions on the environment and the quality of human life.
- Acquisition of values and attitudes towards understanding complex environmental economic-social challenges.

Activelyparticipateinsolvingcurrentenvironmentalproblemsandpreventingfutureones

VAC-ENVIRONMENTALSTUDIES

Unit I Humans and the Environment

Definition, scope and multidisciplinary nature of Environmental Studies. Need for Environmental awareness and environmental education in present-day context. Population growth, variation among nations, Population explosion: Family Welfare Programme, Impacts of rising population on human health and environment. Human Rights, Environmental ethics, World food problems, Role of Information Technology in Environment and human health.

Unit II Natural Resources, Management and Sustainability

Classification of resources: renewable and non-renewable resources. Forest resources: Use and over-exploitation, causes and impacts of deforestation. Water resources: Use and over-utilization of surface and groundwater, floods, drought, and conflicts over water. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, related case studies. Energy resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources. Related case studies. Land resources, Land degradation, fertilizer-pesticide problems, water logging, salinity, soil erosion and desertification. changes caused by agriculture and overgrazing, effects of modern agriculture.

Sustainability and resource conservation: Sustainable development, Sustainable Development Goals, Equitable use of resources for sustainable lifestyles, resource conservation, rain water harvesting, watershed management, wasteland reclamation.

Unit III Ecosystem and Biodiversity

Concept, Structure and functions of ecosystem: Producers, consumers and decomposers, Energy flow in the ecosystem, Food chains, food webs and ecological pyramids.

Ecosystems and ecosystem services: Major ecosystem types in India and their basic characteristics- forests, wetlands, grasslands, agriculture, coastal and marine; Ecosystem services- classification and their significance.

Concept, definition and types of biological diversity (genetic, species and ecosystem diversity). Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic, option values.

Threats to biodiversity, Biodiversity at global, national and local level, Hot-spots of biodiversity. India as a mega-diversity nation, Biogeographical classification of India, Endangered, Threatened and endemic species of India.Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity, Red Data Book.

Unit IV Environmental Issues

Definition, Causes, effects and control measures of: Air, Water, Soil, Marine, Noise, Thermal, Nuclear. Greenhouse gases and their impacts, Climate change, Global warming, Acid rain, Ozone layer depletion, Nuclear accidents and holocaust.

Solid waste management: Generation and management of urban, industrial, biomedical

and e- wastes. Waste Management- Concept of 3R (Reduce, Recycle and Reuse).
Environmental Protection Act, Water (Prevention and Control of Pollution) Act, Air (Prevention and Control of Pollution) Act, Wild life protection Act, Forest Conservation Act, Biological Diversity Act.Social issues: Resettlement and rehabilitation of people: its problems and concerns.
Environmental movements: Chipko, Appiko movement, Silent valley, Big dam movements. Environmental audit and Environmental Impact Assessment.
International agreements: Earth Summits, Convention on Biological Diversity (CBD), Montreal Protocol, Kyoto protocol.

Students should be encouraged to visit places of Environmental Importance including Natural and Manmade Habitat.

SuggestedBooksandReferences–

- Concepts of Ecology; Kormondy Edward J; Pearson Education;4th Edition 2017
- Ecology and Environment; PD Sharma; RastogiPublications: 13edn.2017
- Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. Environmental Encyclopedia, JaicoPubl.House, Mumbai, 2001
- EnvironmentalChemistry, De,A.K.NewAgeInternational,NewDelhi:2000.
- FundamentalsofEcology;EugeneOdum;Cengage:5 edn.2017
- Asthana, D. K. (2006). Text Book of Environmental Studies. S. Chand Publishing.
- Basu, M. and Xavier, S. (2016). Fundamentals of Environmental Studies, Cambridge University Press, India
- Bharucha, E. (2013). Textbook of Environmental Studies for Undergraduate Courses. Universities Press.
- Fisher, Michael H. (2018). An Environmental History of India- From Earliest Times to the Twenty-First Century, Cambridge University Press.
- Jha L. and Shailendra, Environmental Studies, CBH publications, Jaipur
- Rajagopalan, R. (2011). Environmental Studies from Crisis to Cure. Oxford University Press
- Sharma, P. D. (2005). Ecology and Environment. Rastogi Publications.
- Singh, J.S., Singh, S.P. and Gupta, S.R. (2006). Ecology, Environment and Resource Conservation. Anamaya Publications.
- AnAdvancedTextbookonBiodiversity:PrinciplesandPractice:KVKrishnamurthy;Oxfordan d IBH Publishing Co Pvt Ltd.: 2018
- NoisePollutionand Itscontrol:KJPolak;CBSPublishers:2020
- MatterHazardous,MhaskarA.K.,Techno-SciencePublicationEnvironmentandHumanHealth; Claudio Bini, JaumeBech; Springer: 2014