

**B. A./B.Sc./B.Com II Year  
Environment Science**

S. No.	Department/ Day	Syllabus
01	Botany (Monday)	<p><b>Unit 1: Introduction to Environmental Sciences (2 lectures)</b></p> <ul style="list-style-type: none"> <li>• Multidisciplinary nature of Environmental Sciences;</li> <li>• Scope and importance; Concept of sustainability and sustainable development.</li> </ul> <p><b>Unit 2: Ecosystems (5 lectures)</b></p> <ul style="list-style-type: none"> <li>• What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems : a. Forest ecosystem</li> <li>b. Grassland ecosystem</li> <li>c. Desert ecosystem</li> <li>d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)</li> </ul>
02	Geology (Tuesday)	<p><b>Unit 3: Natural Resources: Renewable and Non-renewable Resources (6 lectures)</b></p> <ul style="list-style-type: none"> <li>• Land resources and land use change; Land degradation, soil erosion and desertification.</li> <li>• Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.</li> <li>• Water: Use and over--exploitation of surface and ground water, floods, droughts, conflicts over water (international &amp; inter--state).</li> <li>• Energy resources: Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.</li> </ul>
03	Zoology (Wednesday)	<p><b>Unit 4: Biodiversity and Conservation (7 lectures)</b></p> <ul style="list-style-type: none"> <li>• Levels of biological diversity : genetic, species and ecosystem diversity; Bio-geographic zones of India; Biodiversity patterns and global biodiversity hot spots</li> <li>• India as a mega-biodiversity nation; Endangered and endemic species of India</li> <li>• Threats to biodiversity: Habitat loss, poaching of wildlife, man--wildlife conflicts, biological invasions; Conservation of biodiversity: In--situ and Ex--situ conservation of biodiversity.</li> <li>• Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.</li> </ul>
04	Geography (Thursday)	<p><b>Unit 5: Environmental Pollution (7 lectures)</b></p> <ul style="list-style-type: none"> <li>• Environmental pollution : types, causes, effects and controls; Air, water, soil and noise pollution</li> <li>• Nuclear hazards and human health risks</li> <li>• Solid waste management: Control measures of urban and industrial waste.</li> <li>• Pollution case studies.</li> </ul>

05	Anthropology (Friday)	<p><b>Unit 7: Human Communities and the Environment (6 lectures)</b></p> <ul style="list-style-type: none"> <li>• Human population growth: Impacts on environment, human health and welfare.</li> <li>• Resettlement and rehabilitation of project affected persons; case studies.</li> <li>• <u>Disaster management: floods, earthquake, cyclones and landslides. *</u></li> <li>• Environmental movements: Chipko, Silent valley, Bishnois of Rajasthan.</li> <li>• Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.</li> <li>• Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).</li> </ul>
06	Chemistry (Saturday)	<p><b>Unit 8: Fireworks: Impact on Environment and Human Health (5 lectures)</b></p> <ul style="list-style-type: none"> <li>• Various products of fireworks</li> <li>• Occasions for fireworks</li> <li>• Composition of crackers</li> <li>• Emission by bursting of firecrackers</li> <li>• Possible impacts of fireworks on environment: noise, air, water &amp; soil pollution, waste generation</li> <li>• Impacts of fireworks on human health : safety risk, accidents, respiratory, cardiac and other health problems</li> <li>• Impact of fireworks on animals and plants</li> <li>• Public awareness/campaigns for firework safety</li> </ul>
07	<p><b>Geology*</b></p> <p><b>Anthropology #</b></p> <p><b>Zoology</b></p> <p><b>Botany</b></p>	<p><b>Unit 6: Environmental Policies &amp; Practices (7 lectures)</b></p> <ul style="list-style-type: none"> <li>• <u>Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture*</u></li> <li>• Environment Laws: Environment Protection Act 1986; Air (Prevention &amp; Control of Pollution) Act 1981; Water (Prevention and control of Pollution) Act 1974; Wildlife Protection Act 1972; Forest Conservation Act 1980. International agreements: Montreal protocol, Kyoto protocol and Convention on Biological Diversity (CBD).</li> <li>• Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context. #</li> </ul> <p><b>Unit 9: Field work (Equal to 5 lectures)</b></p> <ul style="list-style-type: none"> <li>• Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc.</li> <li>• Visit to a local polluted site--Urban/Rural/Industrial/Agricultural.</li> <li>• Study of common plants, insects, birds and basic principles of identification.</li> <li>• Study of simple ecosystems--pond, river, lake, forest patch, grassland, Delhi Ridge, etc.</li> </ul>

*Geology Department will take these lectures\**

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