

Yashwantrao Chawhan Arts, Commerce & Science College, Lakhandur Dist.-Bhandara
Department of Chemistry
Add-On Course
Certificate Course in Environmental & Water Management

Course Duration :- 45 day

Total Intake :- 35

Eligibility of Participants :- B.Sc. -I year regular students are eligible.

Course Objectives


- **Awareness:** To acquire an awareness and sensitivity to the total environment and water management
- **Knowledge:** To gain a variety of experiences in and acquire a basic understanding of the environment and water management and its associated problems;
- **Skills :** To acquire the skills for identifying and solving environmental and water crisis problems;
- **Participation:** To encourage students to be actively involved at all levels in working toward resolution of environmental and water management problems.

Learning Outcomes

At the completion of the course, participants will be able to:

- Define terms associated with the environment and water management.
- Understand current impact on the environmental and water crisis problems.
- Promote green practice about environment and water management at home and at work.
- Describe what is being done and what we all can do to help prevent harm to the environment and water crisis.





Principal
Y. C. College, Lakhandur
Dist. Bhandara

Course Syllabus:

Unit	Topic
Unit 1	Introduction to environmental studies <ul style="list-style-type: none"> • Multidisciplinary nature of environmental studies • Scope and importance; Concept of sustainable development
Unit 2	Natural Resources: Renewable and Non-renewable Resources <ul style="list-style-type: none"> • Land resources and land use change; Land degradation, soil erosion and desertification. • Deforestation: Causes and impacts due to mining, dam building on environment, forests and biodiversity.. • Energy resources: Renewable and non-renewable energy sources, Use of alternate energy sources, Growing energy needs • Water resources;- lake, river, pond and well
Unit 3	Environmental Pollution <ul style="list-style-type: none"> • Pollutant, Classification of Pollutant, Primary and secondary Pollution, Qualitative and Quantitative pollution, Degradable and biodegradable pollution, Natural Pollution and Artificial Pollution, Air Pollution, Soil Pollution, Noise Pollution.
Unit 4	Water Pollution <ul style="list-style-type: none"> • Water: Use And overexploitation of surface and ground water • Water pollution: types • Source of water pollution, point source or a non-source point of water pollution. Sewage and domestic waste water, Pathogens, Dye pollution, Pesticides and Herbicides • Fertilizer, Petroleum Hydrocarbon, Toxic metals • Effect of water pollution
Unit 5	Water Managements <ul style="list-style-type: none"> • Rain Water Harvesting, Groundwater Recharge, Drip Irrigation, Sewage Water Treatment Wastewater recycling Use water purification methods ultrafiltration, evaporation, precipitation, electrolytic process, solvent extraction, electro dialysis, reverse osmosis, ion exchange and adsorption.
Unit 6	Environmental Policies & Practices Environment Laws : Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act;. The Chemical, Weapons Convention (CWC).
Unit 8	Field work <ul style="list-style-type: none"> • Visit to an area to document environmental assets; lake, river, pond and well, etc. • Visit to a local polluted site – Rural/Industrial/Agricultural.


 Course Coordinators

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