

6th Semester		Green Technology	L-T-P 3-0-0	3 CREDITS
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Module I: (12 Hours)

Global Warming and its effect:- Introduction and physical definition of global warming, the New Carbon Problem: Accumulation, Long Half-Life, Heating Potential, Carbon Emission Factors, Carbon Absorption in Nature, The Global Emission Situation and its effect in India, The Kyoto and Other Protocols and its view in India, Effect of climate change and its impact.

Planning for the Future to reduce global warming:- Steps taken to Control Carbon Emissions universally, Use of Promotional and Punitive Mechanisms for Reducing Carbon in Atmosphere, The General Approach in Planning for the Future, Developing Countrywide Adaptive Measures for Safety of Local People, Developing Mitigative Measures for Global Reduction of Carbon, India's National Action Plan on Climate Change (NAPCC) till date, National Mission for a Green India, The MRV Debate.

Module II: (08 Hours)

Opportunities in Control of Carbon Emissions and Accumulation:- Essential Steps for Control of Carbon Emissions and Accumulation, Procedure to develop own Priorities and Business Opportunities in India for control of carbon emissions and accumulation, Needs a Mix of Green and Traditional Power Sources in India, A Logical Approach for Carbon Reduction, Need in India —More Forests, Less Deforestation and payment rates procedure for controlling carbon emissions and its Promotional Mechanisms at India.

Green Technologies for Energy Production:- Various Technologies Available for Energy Production, Cost Comparison of a Few Typical Systems for Power Generation, Sources of Energy Production Already in Use, Alternative Methods Ready for Use, Green Technologies Needing some Prior R&D Work.

Module III: (10 Hours)

Green Technologies for Personal and Citywide Application:- Green city, Carbon Emission Reduction at Personal Level, Carbon Emission Reduction at Local Authority and Citywide Level, Carbon Emissions from Imports. Green Technologies for Specific Applications:- Promotion of 'Green' Buildings, Guidelines, The Energy Conservation Building Code (ECBC), Green Hotels and Hospitals, Green Technologies for Transport, Green Roads, Ports and Harbors, Industries, Carbon, Carbon Emissions from a Few Selected Industries in India, The Changing Scenario in Cities, Need for Wider Application to Town Planning and Area Re-Development Projects, 'Green' Infrastructure for Municipal Services, Bringing up Indian Villages, Green Services for Crematoria, Spreading Message to all Stakeholders.

Module IV: (10 Hours)

Some High-tech Measures for Reducing Carbon Emissions
Satellite-Based Systems ,Use of Carbon Capture and Storage (Sequestration), Microorganisms, A Quick SWOT Analysis.

Recommended Plan of Action:- India's National Action Plan Take Us to a Low-Carbon Path, The Missions Help Develop Awareness, Few case studies on Projects undertaken by Various Countries, Adaptive Measures Essential for Indian People to Cope with Climate Change

Books:

[1] Green Technologies, Soli J. Arceivala, McGraw Hill Education

[2] Green Technologies and Environmental Sustainability edited by Ritu Singh,
Sanjeev Kumar

Digital Learning Resources:

Course Name: Sustainable Materials and Green Buildings

Course Link: <https://nptel.ac.in/courses/105/102/105102195/>

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