

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester: III Environmental Management

Subject Name: **Climate Change**

Sr.No	Course content
1.	Basics of climate change: Science of climate change, Natural climatic variability Global warming, Natural and enhanced greenhouse effect, Greenhouse gases & Carbon emissions, Climate modeling
2.	Green House Gases: Carbon dioxide & climate change, Methane & climate change, Nitrous oxide & climate change, CFCs & climate change.
3.	Policies and legislation: International and national legislative frameworks- UNFCCC, IPCC and Kyoto protocol: Scientific and implementation bodies of Kyoto, Kyoto mechanisms- CDM, Joint implementation and Emission Trading, Decisions of Conference of Parties (COP) and Meeting of Parties (MOP), Carbon markets- CERs, Environmental Economics- Issues include the costs and benefits of alternative environmental policies to deal with air pollution, water quality, toxic substances, solid waste, and global warming.
4.	Impacts and adaptation: Causes and severity of impacts, Vulnerability of various sectors like water resources, agriculture, forest, energy sector, coastal zones, human health, Adaptation strategies & options
5.	Climate change mitigation: GHG emission trends, Climate change mitigation policies, Mitigation technologies for transport, infrastructure, industry, waste, energy sector , Renewable and alternative energy, Green building

Term work:

Term work will comprise of assignments and exercises based on policies and legislations , climate change , protocols , CDM.

Reference Books:

1. Climate Change: Science, strategies & solutions by Eileen Clausen, Vicki Arryo Cochran.
2. Climate change: a multidisciplinary approach by William Kininmouth
3. Climate change: Critical Concepts in the environment by Frank Chambers, Michael Ogle.