

P.G Diploma in Solar Renewable Energy

PGDRE-202: Solar Energy and Environment

(52 Hours)

Sub Code: PGDRE-202	No. of Lecture Hours Per week : 04
Total Ccredit:04	Internal Marks : 30 and Exam Marks: 70=100

Objectives of the paper :

- To know the causes of different types of pollution and their impact assessment.
- To understand the pollutions from different types of power plants.
- To know the concept of carbon credits for environmental protection.

Module- I

10 Hours

WASTE MANAGEMENT AND POLLUTION CONTROL

Waste as a source of energy - Industrial, domestic and solid waste as a source of energy.

Pollution control - Causes process and exhaust gases and its control, mechanism and devices for pollution control.

Module- II

10 Hours

Environment concerns of energy extractions:

Environment effects of energy extractions, conversion and use.

Primary and secondary pollution, air, thermal and water pollution, depletion of ozone layer, global warming, biological damage due to environmental degradation. Methods of environmental impact assessment.

Module- III

10 Hours

POLLUTION FROM POWER PLANTS AND ITS CONTROL

Pollution - Pollution due to thermal power station and its control and systems. Pollution due to nuclear power generation, radioactive waste and its disposal, effect of hydro electric power stations on ecology and environment.

Module- IV**12 Hours****ENVIRONMENTAL PROTECTION AND CARBON CREDITS**

Global environmental concern - United Nations framework convention on climate change (UNFCCC), protocol, conference of parties (COP), clean development mechanism (CDM), prototype carbon funds, carbon credits and trading, benefits to developing countries, building a CDM project.

Module- V**10 Hours****ENVIRONMENTAL IMPACTS :**

Environmental impacts -Environmental degradation due to energy production and utilization. Sustainability issues of energy use- Future energy system, Clean energy technologies.

REFERENCES

1. Khartchenko . N.V (2008), “ Green Power: Eco-Friendly Energy Engineering”, Tech Books, and New Delhi,.
2. Banerjee BP (2005) , Handbook of energy and environment in India Oxford University press India
3. Cunningham .W.P (2010), “Environmental Science”, 11th ed., McGraw-Hill,.
4. Venugopal Rao . P (2010.), “Principles of Environmental Science and Engineering”,
5. Letcher .T.M, (2008)“Future Energy”, Elsevier,.
6. Chauhan .D.S, Srivastava .S.K, (2009) “Non-Conventional Energy Resources”, New Age,
7. Kruger .P, “Alternative Energy Resources”, Wiley, 2008.
8. Dr. H. Naganagouda (2014), Solar Power Hand Book, Director, NTC for solar technology , Banagluru.