

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

Credit Based Grading System

Computer Science & Engineering, IV-Semester

BE-3001 Energy, Environment, Ecology & Society

Unit –I

Energy- Sources of Energy : Renewable & Non Renewable, Fossil fuel, Biomass Geothermal, Hydrogen, Solar, Wind, hydal, nuclear sources.

Unit –II

Ecosystem – Segments of Environment: Atmosphere, hydrosphere, Lithosphere, biosphere. Cycles in Ecosystem – Water, Carbon, Nitrogen. Biodiversity: Threats and conservation,

Unit –III

Air Pollution & Sound Pollution -

Air Pollution: Air pollutants, classification, (Primary & secondary Pollutants) Adverse effects of pollutants. Causes of Air pollution chemical, photochemical, Green house effect, ozone layer depletion, acid Rain.

Sound Pollution: Causes, controlling measures, measurement of sound pollution (deciblage), Industrial and non – industrial.

Unit –IV

Water Pollution– Water Pollution: Pollutants in water, adverse effects. Treatment of Domestic & Industrial water effluent.

Soil Pollution – Soil Profile, Pollutants in soil, their adverse effects, controlling measures.

Unit –V

Society, Ethics & Human values– Impact of waste on society. Solid waste management Nuclear, Thermal, Plastic, medical, Agriculture, domestic and e-waste). Ethics and moral values, ethical situations, objectives of ethics and its study . Preliminary studies regarding Environmental Protection Acts , introduction to value education, self exploration, sanyam & swasthya.

References:

- 1.Harris, CE, Prichard MS, Rabin 's MJ, "Engineering Ethics"; Cengage Pub.
- 2.Rana SVS ; "Essentials of Ecology and Environment"; PHI Pub.
- 3.Raynold, GW "Ethics in information Technology"; Cengage.
- 4.Svakumar; Energy Environment & Ethics in society; TMH
- 5.AK De "Environmental Chemistry"; New Age Int. Publ.
- 6.BK Sharma, "Environmental Chemistry" ; Goel Publ. House.
- 7.Bala Krishnamoorthy; "Environmental management"; PHI
- 8.Gerard Kiely, "Environmental Engineering" ; TMH
- 9.Miller GT JR; living in the Environment Thomson/cengage
- 10.Cunninghan WP and MA; principles of Environment Sc; TMH
- 11.Pandey, S.N. & Mishra, S.P. Environment & Ecology, 2011, Ane Books , Pvt. Ltd, New Delhi
- 12.Joseph, B. Environmental Studies, 2009 Tata Mcgraw Hill, Edu India Ltd. New Delhi.
- 13.Gour R.R, Sangal, R &Bagaria, G.P. , Excel Books, A-45, Naraina Phase-I New Delhi.-110028