

17/12/2012



**DOON UNIVERSITY, DEHRADUN**  
**Semester Final Exam, First Semester, 2012**  
**School of Environment & Natural Resources**

**M.Sc. (Natural Resource Management)**  
**Course: ENR – 512: Energy Resources**

*Time Allowed: 3 Hours*

*Maximum Marks: 50*

*Note: Attempt Questions from All Sections: A, B, C*

**SECTION: A (Answer limit – 25 words). Attempt any EIGHT Questions. (Marks: 1.5 x 8 = 12)**

1. What are the major environmental impacts of Thermal Power Plants?
2. What are different types of Biomasses which can be converted into the useable form of energy?
3. Where are the major locations of Geothermal Energy sources in India and why?
4. On what factors the total available Hydropower will depend in a power plant?
5. Briefly explain the availability of Hydropower resources in India.
6. Explain the Lift and Drag forces acting on wind mill blades?
7. Which are the geographical regions in India where wind energy is being extracted to generate electricity?
8. Write short note on solar thermal collectors?
9. Write short note on extraction of energy from the oceans using tidal waves.
10. What is the principle of generation of Nuclear Energy?

**SECTION: B (Answer limit – 250 words). Attempt any SIX Questions. (Marks: 3 x 6 = 18)**

1. The thermal power plants using coal and natural gas are highly polluting to the environment still they are the major sources of power in India why is so?
2. Explain the principle involved in generating energy from the ocean.
3. Explain the basic principle of the Solar Cell.
4. With a block diagram explain various stages in the process of generating electricity from wind.
5. Explain the environmental impacts and economic aspects of hydropower.
6. Explain the process of anaerobic digestion in bioenergy.
7. What is turbine in a steam engine and how it is connected to the generator?
8. Why wind energy is considered renewable and environment friendly?

**SECTION: C (Answer limit – 750 words). Attempt any TWO Questions (Marks: 2 x 10 = 20)**

1. With the help of a neat diagram explain the working of a Hydropower plant.
2. Write an essay on energy from Biomass including advantages, disadvantages and economic aspects.
3. Write a detailed description of the working of the Solar Voltaic Cells.