

Code :R7410209

**R7****IV B.Tech I Semester(R07) Supplementary Examinations, May/June 2011  
NON-CONVENTIONAL SOURCES OF ENERGY****(Common to Electrical & Electronics Engineering, Mechanical Engineering)****Time: 3 hours****Max Marks: 80****Answer any FIVE questions  
All questions carry equal marks**

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1. (a) Which are the non-conventional sources of energy and why they are seriously thought throughout the world?  
(b) Explain extraterrestrial and terrestrial solar radiation.
2. (a) Draw and explain the power generating system illustrating the use of concentrating collectors.  
(b) Why the flat plate collectors are classified as low temperature collectors? Explain with neat diagram.
3. (a) With a neat sketch explain the process of drying food grain.  
(b) Write short notes on photo voltaic energy conversion.
4. (a) Explain the working of vertical axis wind mill mentioning the specific arrangement of the blades.  
(b) Discuss various characteristics of wind.
5. (a) Discuss economic aspects of biogas.  
(b) Explain in detail about anaerobic digestion and different phases and the process involved in it.
6. (a) What are the advantages and disadvantages of geothermal energy over other energy forms.  
(b) Explain the potential of geothermal sources in India.
7. (a) Explain with a neat sketch the energy extraction techniques from tidal waves.  
(b) What are the advantages and disadvantages of ocean wave energy?
8. (a) Explain the principle and working of MHD accelerator.  
(b) Write short notes on carnot cycle.

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