

**Dronacharya Group of Institutions, Greater Noida**  
**Department of Electronics & Communication Engineering**  
**Question Bank**

**Subject: NCER (EOE-081)**

**Course: B. Tech 8<sup>th</sup> Sem (ECE/EEE)**

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1. Explain various configurations of KVIC biogas plants with neat sketches.
2. Discuss the economic aspects of biogas.
3. What is the origin of biomass energy? What is its global potential?
4. Compare the relative performances of a floating drum and fixed dome type bio-gas plants.
5. Explain various bio mass energy conversion technologies in detail.
6. Mention a few bio resources.
7. Describe the bioconversion process for obtaining biofuels.
8. Classify focusing type collector.
9. What is the main advantage of flat plate solar collectors?
10. Derive an expression for total radiation on inclined surface.
11. Define the following:
  - Solar Constant
  - Incident angle
  - Latitude angle.
12. Compare the following types of collectors.
  - Flat plate
  - Paraboloidal
  - Parabolic through
13. Explain working of a solar thermal water pump.
14. Explain solar radiation on tilted surfaces.
15. State applications of solar PV System.
16. Classify the methods of solar energy storage. Describe thermal energy storage System.
17. What is the principle of solar photovoltaic power generation? What are the main elements of a PV systems.
18. Explain various categories of geothermal resources.

19. Explain the functioning of a binary fluid geothermal power system.
20. Explain principle and working of Ion exchange membrane fuel cell.
21. What are the limitations of tidal energy?
22. What are the site requirements for power generation from tides?
23. Define the range of tide.
24. What are the advantages and limitations of tidal power generation?
25. Explain the functioning of a binary fluid geothermal power system.
26. What are the prime movers used in geothermal energy conversion system.
27. Explain various methods of power generation from OTEC plant with neat sketches.
28. Explain the procedure to estimate the average solar radiation.
29. Explain the principle of working of pyranometer.
30. What are the merits and demerits of photo voltaic solar energy conversion?
31. Describe a passive solar space heating system.
32. Explain the principle of MHD power generation.
33. Derive an expression for the efficiency of thermo electric generators.
34. Discuss the difference between a geothermal power plant and thermal power plant. Categorize resources of geothermal energy.
35. Draw the schematic diagram of open cycle OTEC system. Also draw the temperature entropy diagram for it and explain the principle of operation.
36. State the present status of tidal power plants in India. Why is the tidal energy not being utilized?
37. Draw schematic diagram of a MHD power generating system. Explain the working of the system.
38. Explain the difference between a fuel cell and battery. What are the uses and advantages of fuel cells?