

## Question bank

1. What are the limitations of conventional energy sources?
2. What are the prospects of non conventional energy sources in India?
3. What are the renewable energy sources? Write its advantages and obstacles to implement these sources.
4. What are the methods of direct energy conversion? Describe in brief.
5. What are limitations of renewable energy sources?
6. Show on a map, wind power plants, solar power plants, tidal power plants ,nuclear power plants hydro power plants and thermal power plants.
7. Write a note on solar radiation on tilted surfaces.
8. Briefly explain different type of instruments used to measure solar radiation.
9. What are the convention and non-conventional sources? Write advantages of non-conventional energy sources.
10. What is need of renewable energy?
11. Briefly describe Renewable Energy Scenario in Punjab.
12. What is extraterrestrial , terrestrial radiation, solar radiation and solar flux
13. What are the challenges associated in the use of solar energy and give the Remedies and possible solutions.
14. Discuss energy requirement of rural consumers and state the possible alternative source of energy to meet the demand
15. Briefly describe Renewable Energy Scenario in India and world.
16. What is Environmental Aspects of Energy Utilization in renewable and non-renewable energy sources?
17. Enumerate the different types of concentrating type collectors.
18. With the help of a neat sketch describe a solar heating system using water heating solar collectors and state the advantages and disadvantages of this method.
19. Write short note on: hot dry rock and solar constant.
20. How are Flat plate collectors classified? Explain any two types with neat sketch.

21. How is the performance of flat plate collector evaluated?
22. Explain the construction and uses of evacuated tube collectors?
23. What are the factors effected on performance of solar flat plate collector?
24. What is solar cell, and applications of PV system?
25. Explain working principle of solar PV cells? What are the materials used for PV cells?
26. What are the various methods to store solar energy? Discuss in detail any two processes?
27. Draw neatly solar pond and explain each zone operation and how it is store energy?
28. What are the different types of photovoltaic cell? Explain each one?
29. What is wind power explain briefly?
30. Describe with a neat sketch the working of wind energy system with main components
31. How power extracted by wind turbine?
32. List out type of wind turbine and what are the wind power plants are grouped
33. Discuss the advantages and disadvantages of horizontal and vertical axis wind mill. What methods are used to overcome the fluctuate power generation of wind mill?
34. What are the rules for site selection of wind turbine and advantages and disadvantages of wind turbine ?
35. How performance of the wind turbine is determined? Explain its operational characteristics.
36. With a neat sketch explain biomass gasification?
37. What is biomass, bio-fuel , bio energy and biogas?
38. What are the methods used for biomass conversion to energy? Explain in brief.?
39. What are the factors affecting the generation of bio gas?
40. What are the constituents of biomass materials? Explain proximate and ultimate analysis.
41. What is fermentation, aerobic and anaerobic, hydrolysis explain each.
42. Compare fixed dome and float drum type bio digesters.
43. What is tide? Explain tidal energy and its conversion with neat diagram

44. Explain the working of fuel cell and their applications
  45. Explain the basic components of a tidal thermal power plant and state their advantages and disadvantages..
  46. What is the nature of tidal power extracted from single basin arrangement and double basin arrangement?
  47. What are the wave energy conversion machines, explain any one conversion methods.
  48. What is the basic principle of ocean thermal energy conversion ? What are the main types of OTEC power plants? Describe their working in brief.
  49. What are the geothermal power plants, explain binary cycle power plant with neat diagram
  50. Draw schematic diagram of an alkaline water electrolytic hydrogen cell and explain
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