CLASS:X ASSIGNMENT 3

SUBJECT: PHYSICS CHAPTER: SOURCES OF ENERGY

- 1. What is energy?
- 2. What do you mean by 'source of energy'?
- 3. What should be the characteristics of a good source of energy?
- 4. Name a few sources of energy used in our daily life.
- 5. What are renewable and non-renewable sources of energy? Give examples of each.
- 6. Name some of the sources of energy used in ancient times.
- 7. Give 2 advantages and 2 disadvantages, each of renewable and non-renewable sources of energy.
- 8. What are fossil fuels? Give a few examples.
- 9. Name a gaseous fossil fuel.
- 10. Which of the following is not derived from solar energy: geothermal, wind energy, fossil fuels, biomass.
- 11. What are the limitations of extracting energy from (a) the wind (b) the waves (c) the tides.
- 12. What are the environmental consequences of the increasing demand for energy? What steps would you suggest to reduce energy consumption?
- 13. Name two indirect ways of using solar energy.
- 14. give the transformation of energy (sequence) taking place in(a) Thermal power plant(b) hydro power plant(c)
- 15. Give advantages and disadvantages of constructing dams.
- 16. Name the plant and animal products that are used as fuel.
- 17. What is biomass?
- 18. How do we get charcoal?
- 19. What is bio-gas?
- 20. What are the advantages of using bio-gas as fuel?
- 21. Why is burning of firewood in traditional chulhas considered disadvantageous?
- 22. Give the constituents of bio-gas.
- 23. What are the advantages of bio-gas over traditional fuels?
- 24. Describe the process of bio-gas production in a bio-gas plant.
- 25. Name the type of energy possessed by wind.
- 26. What is a (a) windmill (b) winds energy farm?
- 27. How does a windmill help in generating electricity?
- 28. How can wind be sued for lifting or pumping up water?
- 29. Give the advantages and disadvantages of using wind as a source of energy.
- 30. What should be the minimum wind velocity for a windmill to function?
- 31. What is India's wind power potential? Where in India is the largest wind energy farm?
- 32. Electricity generated with (a) windmill (b) water stored in dam can be considered another form of solar energy. Explain.
- 33. What is Tidal energy? How can it be harnessed?
- 34. Can tidal energy be considered a potential source of energy? Explain giving reasons.
- 35. Name the forms in which energy from oceans is made available to us for use.
- 36. What is meant by 'alternative sources of energy'? Give examples.
- 37. What are OTEC power plants? How do these operate?
- 38. What is geothermal energy? What is its advantage?

(c) solar cell

- 39. Name the source (s) of energy (non-conventional) that can directly be used 24 hours a day.
- 40. What should be difference in temp of water at surface and depth of about 2 km for harnessing ocean thermal energy?
- 41. Name the ultimate source of all other sources of energy.
- 42. Name two appliances that use solar energy directly.
- 43. Name two indirect ways of using solar energy.
- 44. What is solar constant? What is its value?
- 45. Name the form (s) in which we receive sun's energy.
- 46. Inspite of exposure of many modern forms & ways of using energy, we are going back to use of solar energy. Why?
- 47. Name a few solar energy devices that are being used extensively these days.
- 48. Can we completely depend on solar energy for our energy requirements? Give reasons.
- 49. How can we overcome the limitation of using solar energy?
- 50. Why are solar heating devices painted black from inside?
- 51. What is the use of glass sheet in a solar heating device?
- 52. Why do we use mirror in a solar cooker? What type of mirror is used in solar heating devices?
- 53. What is a solar cell?
- 54. Give the transformation of energy taking place in a solar cell.
- 55. What is a solar cell panel?
- 56. Name the material used for making solar cell.
- 57. What are the advantages of solar cells over solar heating devices?
- 58. Solar cells, inspite of many advantages are not used on a large scale for power production or for large scale power production. Why?
- 59. Give some of the uses or areas where solar cell / panels are being used.
- 60. What is nuclear energy?
- 61. Name two ways of obtaining nuclear energy.
- 62. Define nuclear fission.
- 63. Give examples of heavy atoms.
- 64. Name some elements that undergo nuclear fission.
- 65. Is nuclear energy considered a renewable or a non-renewable source of energy? Give reason.
- 66. Name the process of large energy production in (a) the sun (b) nuclear reactor.
- 67. What is a nuclear reactor?
- 68. What is a nuclear chain reaction?
- 69. Give advantages and disadvantages of using nuclear energy.
- 70. Give one example each of:-
 - (a) constructive use of nuclear energy
 - (b) Destructive use of nuclear energy.