

Question Bank

UNIT 1

- 1) What are the advantage and disadvantage of concentrating collectors over a flat plate collector?
- 2) Describe briefly the advantage of non-conventional energy recourses over conventional energy
- 3) write short notes on diffused, beam and total radiation
- 4) Which instrument is used in to measured solar radation.
- 5) Write short notes on :
- 6) Incident angle
- 7) Hour angel

UNIT 2

1. Explain the process of photosynthesis. What are the condition which are for it?
2. Describe the basic principle of ocean thermal energy conversion system.
3. What are the advantage and disadvantage of savonius rotor?
4. Explain Seeback, Peltier and Thompson thermoelectric energy conversion system.
5. Describe the working of a Thermo-electric generator. Derive an expression for its power output.

UNIT 3

6. Write merit and demerit of wave energy.
7. What are the advantage and disadvantage of wind power?
8. Define following-:
9. Yaw control
10. Hub

11. Pitch angle
12. Wind turbine
13. Darrieus rotor
14. What is geothermal energy? Write short notes on limitation of geothermal energy.
15. A typical wind generator has diameter 5 meter in a region of mean wind speed of 5 meter/sec. determine the power produce if the wind turbine is used to draw water from a well at a depth of 10m at a storage tank at 5m above the ground. Determine the discharge. Take $C_p=0.2$.

UNIT 4

- 1) Explain the working of horizontal axis 2 blade windmill
- 2) What are advantage and disadvantage of darrieus type rotor?
- 3) Define following blade element, wind velocity, incident wind velocity, tower.
- 4) Derive an equation of energy extract from the wind turbine.
- 5) How biomass conversions take place?

UNIT 5

- 1) Explain the difference between fixed dome and Floating drum type biogas plant.
- 2) Draw a Schematic diagram for solar pond based electric plant with cooling tower and explain its working?
- 3) Differentiate between extraterrestrial and terrestrial sky radiation?
- 4) Define and explain the term solar constant and solar insolation.
- 5) Discuss the difference between geothermal power plant and thermal power plant.
- 6) What do you mean by non-conventional energy resources? Discuss briefly.
- 7) Discuss the principal of solar collector. How collector coating can be used to improve the performance of collector?
- 8) Write short notes on :
- 9) Solar azimuth angle
- 10) Declination angle
- 11) Write short notes on :
- 12) Zenith angle
- 13) Angle of latitude