

19A618401. solar and wind energy .

UNIT - 1 . (2 mark) .

1. Define flat plate collectors and its types .
2. Differentiate concentrating technology and non concentrating technology .
3. What are the two main type of solar thermal collectors ?
4. Define solar dryers and uses
5. What are the losses affecting the efficiency of flat plate collector ?
6. How do you calculate thermal convection ?
7. What is the formula for the rate of thermal energy transfer ?
8. What are the application of solar dryer in agro industry
9. Explain the performanc of solar dryer ?
10. Define absorber plate .

UNIT - II .

SOLAR CONCENTRATING COLLECTORS AND PV TECHNOLOGY.

- 1) Define solar stills .
- 2) What is photovoltaics and its types .
- 3) Differentiate solar stills and solar pond .
- 4) What is the efficiency of solar stills .
- 5) Explain disadvantage of solar stills .
- 6) What are the characteristics of load estimation .
- 7) What is the method of pumping water using solar energy ?
- 8) What are the types of solar stills ?
- 9) Design solar pond .
- 10) Explain optically concentrating collectors .

UNIT - 3 .

WIND MAPPING ANALYSIS AND CHARACTERISTICS OF WIND.

- 1) Define tip speed ratio in wind turbine.
- 2) Recall the characteristics of wind.
- 3) Infer wind profile power relationship.
- 4) What is solar cells and its types?
- 5) Infer Betz's criterion or Betz limit?
- 6) Summarize the available power from wind.
- 7) Define the power characteristics of wind.
- 8) Summarize wind data & explain why it is important for wind energy system.
- 9) Define torque characteristics of wind.
- 10) What are types of photovoltaic cells?

UNIT - 4.

WIND POWER GENERATOR AND WIND ENERGY STORAGE

- 1) What is the working principle of wind mill?
- 2) What are grid system?
- 3) How pump capacity measured?
- 4) What is the efficiency of solar water pumping?
- 5) What are the types of grid system?
- 6) Explain Advantages of wind energy storage.
- 7) Differentiate upwind systems and down wind system?
- 8) What is the formula for wind power conversion?
- 9) How do you calculate power generation?
- 10) What is wheeling and banking in solar wind energy?

ALTERNATIVE ENERGY SOURCES.

- 1) Define tidal energy.
- 2) Differentiate open and closed cycles.
- 3) What are the classification and types of geothermal power plants.
- 4) What are the principle of fuel cell?
- 5) Differentiate pumped hydro and underground pumped hydro.
- 6) Explain OTEC.
- 7) Recall off shore and on shore ~~open~~ ocean energy conversion technologies.
- 8) Summarize fusion fission hybrid.
- 9) Explain high and low tides.
- 10) What is tidal power.