

ORO551 – RENEWABLE ENERGY SOURCES

Important 2 Mark Questions

Part-A

Unit-I

1. Explain the role of renewable source
2. List various energy resources.
3. Compose the Environmental impact of Solar Power.
4. Define Solar Constant.
5. State the principle involved in generating solar power.
6. Summarize the factor influencing solar power extraction.
7. Explain solar azimuth angle and Zenith angle.
8. List the advantage of solar concentrators.
9. Express the Estimation of average Solar Radiation.
10. Explain solar insolation.
11. Explain solar insolation.
12. Express the advantages, and limitations of renewable energy sources.
13. Examine briefly the different types of solar energy measuring instruments
14. Distinguish between diffuse radiation and beam radiation.
15. Describe about solar geometry.
16. What are conventional sources of energy?
17. Examine the importance of solar energy in the present-day energy crisis?
18. Express the instruments for measuring solar radiation and sun shine.
19. Compose the extraterrestrial and terrestrial solar radiation.
20. Examine with a short note on total solar energy received in India

Unit-II

1. What are the main components of a flat plate solar collector?
2. List out the various types of flat plate collectors.
3. Describe the classification of solar energy collectors.
4. Describe the classification of concentrating collectors.
5. What is flat plate collector? explain its operation.
6. Differentiate flat plate collectors and concentrating collectors.
7. Define Concentrating Collector and classify it.
8. Explain non focusing type concentrating collectors.
9. Explain central receiver tower.
10. Express Compound Parabolic Concentrator (CPC).
11. Explain the different types of point focusing type concentrating type collectors.
12. Explain the different types of line focusing type concentrating type collectors.
13. Express the applications of solar air heaters.
14. Examine the effects of various parameters affecting the performance of a collector.

15. Examine the important factors governing the selection of site for conventional sources.
16. Compose the energy balance equation for solar collector.
17. Define Collector.
18. Point out the uses of Feed in Inverter.
19. Summarize the Concentration Ratio (CR).
20. At what wavelength the radiation emitted from the sun and that reflected from the earth are centred.

Unit-III

1. Express the different types of solar energy storage systems
2. Define Sensible in solar energy storage
3. Define Latent Heat
4. What is a solar pond?
5. Explain in brief about the applications of solar energy
6. Compose the solar heating/Cooling Techniques.
7. Explain solar water heating
8. Explain in detail solar space cooling
9. Express solar distillation
10. Examine the Solar Drying.
11. What are the different applications of solar PV system in rural India plot?
12. Compose the principle of solar photovoltaic power generation?
13. Examine the equivalent circuit for solar PV panel
14. Explain forced circulation solar water heater
15. Explain in brief about passive heating systems
16. Express PV effect
17. Examine detail solar Space heating
18. What are the advantages PV solar energy conversion system?
19. What are the disadvantages PV solar energy conversion system?
20. Express the solar thermal system.

Unit-IV

1. List two important wind turbine generator installations in India.
2. What is the type of generator used in wind power plant?
3. How the wind mills are classified.
4. What are the disadvantages of wind power?
5. What is meant by pitch angle?
6. Explain vertical wind mills with neat sketch.
7. Compose the Constant speed constant frequency WTG unit.
8. Compose the Variable speed constant frequency WTG system.
9. Explain the mechanism of production of local winds.
10. What are the constituents of biogas?
11. Illustrate some organic materials used in bio-mass plant.
12. Express the factors affecting biogas generation.
13. Illustrate liquefaction?

14. Explain the classification of biogas plant.
15. Explain Deenbandhu type plant.
16. Explain the utilization of biogas plant.
17. Illustrate wet processes used for producing biogas.
18. Express dry processes
19. Express continuous and batch processes
20. Express the operation of I.C.Engine.

Unit-V

1. What is geothermal power?
2. What are the classifications of geo thermal fields?
3. Describe a vapor dominated or dry steam field
4. Discuss the advantages and disadvantages of geothermal plant
5. What is the potential of geothermal energy in India.
6. Explain the working of a vapor-dominated power plant
7. Discuss the types of liquid dominated hydrothermal convective systems
8. Explain the applications of geothermal energy
9. Explain the different types of energy that can be generated from ocean
10. Explain in brief the principles of OTEC energy utilization
11. Explain in brief the principles of obtaining energy from the tides
12. What are the advantages and limitations of tidal power generation?
13. What are the main types of OTEC power?
14. Write short note about wave energy conversion methods?
15. Compose Direct Energy Conversion?
16. Discuss Carnot cycle?
17. Compose the Principle of Thermo Electric Power Generator.
18. Illustrate the materials used for MHD generation.
19. Discuss See beck Thermo Electric Effect .
20. Illustrate the advantages of MHD generation.