

School of Agriculture

Bachelor of Science Honours in Agriculture
Summer /Backlog
Semester End Examination - Jul 2024

Duration : 180 Minutes
Max Marks : 100

Sem IV - A1UA403B - Renewable Energy and Green Technology

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) Define Vertical Axis Wind Turbine (VAWT). K1(2)
- 2) Explain the working principle of a solar water heater. K2(4)
- 3) Demonstrate the process of thermal heating in solar cooker. K2(6)
- 4) How you can utilize the potential of Tidal Energy systems in coastal regions. K3(9)
- 5) Identify the environmental impact of Hydropower dams on ecosystems. K3(9)
- 6) Discuss the role of government incentives in promoting Solar Energy adoption. K5(10)
- 7) Explain the process of solar desalination and its importance in arid regions. K4(12)
- 8) In a hydroelectric power plant, water falls at a rate of 1000 kg s^{-1} from a height of 100 m. Assuming that 50% of the energy of falling water is converted into electrical energy, calculate the power generated. (Take $g=10 \text{ ms}^{-2}$) K5(15)
- 9) Compare the efficiency of different types of hydropower turbines. K5(15)
- 10) Discuss the challenges in integrating Solar Energy into existing power grids. K6(18)