

Model Question Paper

First Semester B.E. Degree Examination

Renewable Energy Sources 22ETS15E/25E

Time: 03 Hours

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing at least ONE question from each module.

Module -1			Marks
Q. 1	a	Briefly explain the principles of renewable energy, energy & sustainable development and the implications of renewable energy	10
	b	Discuss renewable energy availability in India and worldwide.	10
OR			
Q. 2	a	Briefly describe solar, wind and biomass energy.	10
	b	Briefly describe energies from the ocean.	10
Module-2			
Q. 3	a	Explain solar radiation and its estimation.	10
	b	Explain the pyranometer and pyrliometer.	10
OR			
Q. 4	a	Explain solar flat plate collector.	10
	b	Explain the principle of the solar photovoltaic cell.	10
Module-3			
Q. 5	a	Describe wind energy availability in India and the major problems associated with it.	10
	b	Explain with a sketch the basic components of the wind energy conversion system (WECS).	10
OR			
Q. 6	a	Explain the photosynthesis process.	05
	b	Classify biomass conversion technologies.	05
	c	Explain with a sketch downdraft gasifier.	10
Module-4			
Q. 7	a	Explain with a sketch single basin tidal power plant.	10
	b	What are the advantages and limitations of wave energy?	10
OR			
Q. 8	a	Explain the principle of working the OTEC power station.	10
	b	What are the problems associated with OTEC?	10
Module-5			
Q. 9	6	Explain the fuel cell.	06
	6	Classify fuel cells.	06
		Explain zero energy concepts.	08
OR			
Q. 10	8	Explain with a sketch the electrolysis method of hydrogen energy production.	10
	b	Describe hydrogen energy storage and applications.	10