PVP 20

Code: 20EE4501C

III B.Tech - I Semester – Regular / Supplementary Examinations
NOVEMBER 2024

RENEWABLE ENERGY RESOURCES
(ELECTRICAL & ELECTRONICS ENGINEERING)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Explain how to estimate solar radiation on titled surface.	L2	CO1	7 M
	b)	Discuss how concentrating collectors are different from flat plate collectors.	L3	CO2	7 M
OR					
2	a)	Briefly describe the impact of solar power on environment.	L2	CO1	7 M
	b)	With a neat sketch explain flat plate collectors for water/air heating.	L3	CO3	7 M
UNIT-II					
3	a)	Interpret various solar heating techniques.	L3	CO2	4 M
	b)	Interpret the performance of solar cell-power from solar module.	L3	CO2	10 M
OR					

4	a)	Interpret various solar cooling techniques.	L3	CO2	4 M
	b)	Explain the principle of operation and description of non-convective solar pond.	L3	CO3	10 M
		UNIT-III			
5	a)	Discuss the differences between horizontal and vertical axis windmills.	L4	CO4	7 M
	b)	Interpret different types of biogas digesters.	L3	CO2	7 M
		OR			
6	a)	Interpret the pros and cons of biogas power generation (Four each).	L3	CO3	8 M
	b)	List out the differences between anaerobic and aerobic digestion systems (any six).	L4	CO4	6 M
		UNIT-IV			
7	a)	Show the potential and kinetic energies associated with wave energy.	L3	CO3	7 M
	b)	Explain the working principle of OTEC system.	L4	CO5	7 M
		OR			
8	a)	Explain the potential of tidal sources in India.	L2	CO1	7 M
	b)	Explain the pros and cons of OTEC power generation.	L4	CO5	7 M
		UNIT-V			
9	a)	Interpret the principles of DEC.	L3	CO3	4 M
	b)	Explain the principle and power generation techniques of MHD.	L4	CO5	10 M

OR					
10	a)	Interpret the need of DEC.	L3	CO3	4 M
	b)	Explain the merits and demerits of different types of fuel cells.	L4	CO5	10 M