Reg. No.												

Question Paper Code	12293

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023

Sixth Semester

Electronics and Instrumentation Engineering

20EEOE906 - INTRODUCTION TO RENEWABLE ENERGY SYSTEMS

(Regulations 2020)

Duration: 3 Hours Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	Define the terms Zenith angle.	*2,K1,CO1*
2.	List most commonly used conventional energy sources.	*2,K1,CO1*
3.	List the major drawbacks to the extensive application of solar energy.	*2,K1,CO2*
4.	What are Pyranometers and Pyrheliometers?	*2,K1,CO2*
5.	What are the components of wind mill?	*2,K1,CO3*
6.	What is geothermal power?	*2,K1,CO4*
7.	What are the classifications of geo thermal fields?	*2,K1,CO4*
8.	What is meant by biomass energy and biomass energy resource?	*2,K1,CO5*
9.	List out different types of Batteries.	*2,K1,CO6*
10.	What are the common problems associated with lead acid batteries?	*2,K1,CO6*

PART - B (5 × 16 = 80 Marks)

Answer Any Five Questions

11.	(i) Explain the prospects of Non-conventional energy sources in India.	*8,K2,CO1*
	(ii)Summarize the conventional and unconventional energy sources. Describe briefly.	*8,K2,CO1*
12.	How solar air collector is classified? What are the main applications of driers?	*16,K2,CO2*
13.	Draw schematic of heliostat based solar thermal power plant and explain the concept of generation of electric power.	*16,K3,CO2*
14.	(i) Elaborate about the type of generator used in wind power plant.	*8,K2,CO3*
	(ii) Classify wind mills.	*8,K2,CO3*
15.	Explain the working of Flywheel energy storage.	*16,K2,CO4*
16.	Sort out various factors affecting bio digestion of a gas.	*16,K2,CO5*
17.	Examine in detail about the photovoltaic energy conversion.	*16,K2,CO6*
18.	Explain in detail about the fuel cells.	*16,K2,CO6*