Q. Code:280550

Reg. No. | | | | | | | | | | | | | |

B. E / B. TECH.DEGREE EXAMINATION, MAY 2023

Sixth Semester

OE18308 – GREEN ENERGY

(Regulation2018A)

TIME:3 HOURS **MAX. MARKS: 100**

CO1 Develop the knowledge about the current scenario of energy requirements.

CO2 Apply the solar energy-based systems to meet the energy demand.

CO3 Evaluate of the wind energy-based set-ups for energy management.

CO4 Discuss the principles of ocean and tidal energy generation for the current and future energy needs.

CO 5 Interpret the various source of energy like nuclear, geo-thermal and hydropower to withstand the present and future energy requirements.

PART- A(10x2=20Marks)

(Answer all Questions)

		CO	RBT LEVEL
1.	List examples for Renewable energy resources.	**1**	**1**
2.	Distinguish between primary and secondary energy sources.	**1**	**1**
3.	Write any two examples of heat energy to mechanical energy conversion process.	**2**	**2**
4.	Mention any four applications of solar cells.	**2**	**2**
5.	Differentiate Coriolis force and wind aloft.	**3**	**2**
6.	State any four factors that affect wind shear.	**3**	**2**
7.	Write any four important features of ocean energy.	**4**	**2**
8.	How tides are formed and give any two examples.	**4**	**2**
9.	List any four locations of geothermal power plants.	**5**	**2**
10.	Highlight the mechanism of chain reaction during nuclear fission.	**5**	**2**

PART- B (5x 14=70Marks)

		Marks	CO	RBT LEVEL
11. (a)	Illustrate the electrical energy generation process in a coal fired thermal power plant with neat flow sheet.	**(14)**	**1**	**3**
	(OR)			
(b)	Discuss the production of Nuclear energy with neat sketch and write its applications.	**(14)**	**1**	**3**

12. (a)	Explain the construction, principle and working of solar thermal collectors with their applications.	**(14)**	**2**	**3**
	(OR)			
(b)	Identify the types of solar cells and explain the working principles of photovoltaic conversion of solar energy using a neat sketch.	**(14)**	**2**	**3**
13. (a)	Discuss about the working principles of wind energy conversion system for generating electricity using neat sketch.	**(14)**	**3**	**3**
	(OR)			
(b)	Analyze the various instruments measuring wind speed and their limitations.	**(14)**	**3**	**3**
14. (a)	Illustrate working principle of ocean tidal energy conversion system with neat sketch also write its applications.	**(14)**	**4**	**3**
	(OR)			
(b)	Discuss working principle of wave energy conversion system with neat sketch and write its applications.	**(14)**	**4**	**3**
15. (a)	Discuss the working of a binary cycle geothermal power plant using a neat schematic diagram.	**(14)**	**5**	**3**
	(OR)			
(b)	Analyze the mechanism of electricity generation in a magneto-hydrodynamic system using a neat sketch.	**(14)**	**5**	**3**

PART- C (1x 10=10Marks)

(Q.No.16 is compulsory)

		Marks	CO	RBT LEVEL
16.	Discuss about the instruments used to measure and methods used to predict solar radiation with neat sketch.	**(10)**	**5**	**3**

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