

Model Question Paper-1/2 with effect from 2021(CBCS Scheme)

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Sixth Semester B.E. Degree Examination Renewable Energy Resources

TIME: 03 Hours

Max. Marks: 100

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

Module -1			*Bloom's Taxonomy Level	COs	Marks
Q.01	a	Explain the causes of energy scarcity	L1	CO1	06
	b	Briefly explain energy resources and its classification	L2	CO1	08
	c	Explain worldwide renewable energy availability	L2	CO1	06
OR					
Q.02	a	With necessary diagram, explain layers of the sun	L1	CO1	08
	b	Define the following terms: i) Zenith angle ii) Declination angle iii) Altitude angle iv) Incident angle	L1	CO1	08
	c	With a neat diagram, explain Rankine cycle of electricity production	L2	CO1	04
Module-2					
Q. 03	a	With a schematic diagram, explain working of a Stirling engine	L2	CO2	06
	b	Discuss about different solar cell materials	L1	CO2	06
	c	With a neat diagrams, explain solar water heating system and solar pond power generation	L2	CO2	08
OR					
Q.04	a	With a neat diagram, explain the IV characteristics of a solar cell	L2	CO2	08
	b	Discuss about the advantages and disadvantages of PV systems	L1	CO2	06
	c	Explain any six applications of solar cells	L1	CO2	06
Module-3					
Q. 05	a	State and explain methods of hydrogen production technologies	L2	CO3	08
	b	Discuss the applications, advantages and disadvantages of hydrogen energy	L1	CO3	06
	c	Discuss the considerations and guidelines for wind turbine site selection	L1	CO3	06
OR					
Q. 06	a	With a neat sketch, explain dry steam based geothermal power plant	L2	CO3	06
	b	With necessary diagram, explain waste recovery management scheme	L2	CO3	08
	c	Write the advantages and disadvantages of waste recycling	L1	CO3	06
Module-4					
Q. 07	a	With the help of diagram, explain gasifier and their classification.	L2	CO4	06

	b	Explain the chemistry of reaction process in gasification.	L2	CO4	08
	c	Explain biological and chemical stages of anaerobic digestion	L2	CO4	06
OR					
Q. 08	a	With neat diagram , explain single basin and two basin tidal power plants	L2	CO4	06
	b	Brief on biogas plants feeds and their characteristics	L1	CO4	06
	c	With a neat diagram ,explain floating dome type biogas plant. List the advantages and disadvantages of this type of plant	L2	CO4	08
Module-5					
Q. 09	a	Discuss motion in the sea waves	L1	CO5	04
	b	Explain various devices for harnessing wave energy	L2	CO5	08
	c	Distinguish between land based OTEC power plants and floating OTEC power plants	L2	CO5	08
OR					
Q. 10	a	Write the advantages and disadvantages of wave power	L1	CO5	06
	b	With a neat sketch, explain closed cycle and hybrid cycle in OTEC cycle	L2	CO5	08
	c	Discuss application of OTEC in addition to produce electricity	L1	CO5	06

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.