

Model Question Paper- I with effect from 2022

CBCS SCHEME

First Semester B.E Degree Examination

Renewable Energy Sources for Computer Science Engineering Stream (BETCK105E)

TIME: 03Hours

Max.Marks:100

1. Note: Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**
2. VTU Formula Hand Book is Permitted
3. M: Marks, L: Bloom's level, C: Course outcomes.

		Module - 1	M	BLs	COs
Q.1	a	Discuss the social implications of renewable energy sources?	6	L1	CO1
	b	Differentiate between renewable and non renewable energy sources?	8	L2	CO1
	c	Briefly explain renewable energy availability in India?	6	L1	CO2
OR					
Q.2	a	What are the advantages and disadvantages of solar energy?	8	L1	CO1
	b	Discuss briefly geothermal energy?	6	L1	CO3
	c	Write a note on Internet of Energy(IOE)	6	L2	CO4
Module – 2					
Q.3	a	Define beam and diffuse radiation?	6	L1	CO3
	b	Explain the working principle of pyrheliometer with line diagram?	8	L1	CO3
	c	What are the basic features of ideal pyranometer?	6	L1	CO3
OR					
Q.4	a	What are the limitations and applications of solar photovoltaic system	8	L1	CO3
	b	With a simple line diagram explain solar flat plate collector?	8	L1	CO3
	c	Write a note on solar cell	4	L2	CO3
Module – 3					
Q5	a	What are the major problems associated with wind power system.	6	L2	CO4
	b	With a simple line diagram explain main components of Horizontal axis wind turbine (HAWT).	8	L1	CO3

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	c	Classify wind energy conversion system (WECS)	6	L2	CO3
OR					
Q.6	a	Explain different types of biofuels.	6	L1	CO2
	b	Explain the process of photosynthesis?	8	L1	CO3
	c	What are the main advantages and disadvantages of biomass energy?	6	L1	CO2
Module – 4					
Q.7	a	What are the fundamental characteristics of tidal power plant?	6	L2	CO3
	b	Describe with simple line diagram single basin tidal power plant?	8	L1	CO3
	c	What are the limitations of tidal power plant?	6	L2	CO4
OR					
Q.8	a	Describe with a line diagram closed cycle OTEC system?	8	L1	CO3
	b	What are the environmental impacts of OTEC plant?	6	L2	CO4
	c	What are relative advantages and limitations of OTEC plant?	6	L2	CO4
Module – 5					
Q.9	a	Describe the classification of the fuel cells?	8	L1	CO2
	b	Describe various methods of storage of hydrogen?	6	L2	CO4
	c	What are the problems associated with hydrogen energy?	6	L2	CO4
OR					
Q.10	a	What are the benefits of hydrogen energy ?	6	L1	CO2
	b	What are the various fuels used in fuels cells? Explain.	8	L2	CO3
	c	Write a note on Zero energy concepts?	6	L2	CO4