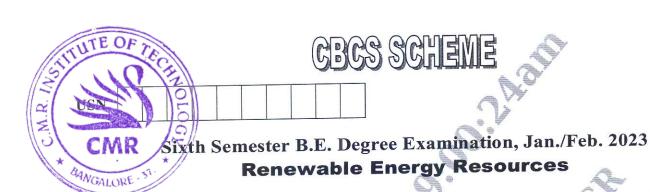
Time: 3 hrs.



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Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from ea	ich module.
Module-1	
E 1' modern world	(07 Marks)
the new olegants out on	(07 Marks)
b a least of atmost are of the sun and explain characteristics of all	ferent layers.
c. Draw a neat sketch of structure of the sun and explain characteristics of and	(06 Marks)
OR -	
and 150 contints them from conver	ntional sources of
	(07 Marks)
b. Discuss advantages and disadvantages of conventional energy resources.	(07 Marks)
	(06 Marks)
c. Define: (i) Hour angle (ii) Zenith angle (iii) Azimuth angle	** C 10 ** 55 C 10 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2
Module-2	
and the second s	(07 Marks)
1' f - low the among operate for crop drying	(07 Marks)
b. Write a note on application of solar thermal energy for crop drying.	(06 Marks
c. Discuss I-V characteristics of a photovoltaic cell.	(
OR	
4 a. Classify the different solar thermal collectors. Explain in short the wor	king of parabolic
4 a. Classify the different solar merinal confectors. Explain in short the wor	(07 Marks)
solar thermal collector. b. What are the merits and demerits of photoelectric energy generation? Ho	
b. What are the merits and demerits of photoelectric energy generation. The	(07 Marks)
can be integrated into the power grid? Explain in brief. c. Give a brief account on solar space heating and differentiate passive	
	(06 Marks)
heating.	(001.111111)
Madul 2	
Module-3	rtation firel
5 a. Discuss Hydrogen as an alternative fuel. Explain its utilization as a transpo	(07 Marks
b. What is geothermal system? Explain its utility as an energy resource.	(07 Marks
of ic an interest on the bacte of its composition	(06 Marks)
c. Classify municipal waste off the dasis of its composition.	
OR	
List and briefly explain different hydrogen production technologies.	(07 Marks)
b. Explain construction and working of a horizontal axis wind turbine elec	ctricity generator
using a neat sketch	(U/ Marks)
c. Differentiate pyrolysis and gasification, on basis of use of oxygen, oper	rating temperature
and utility.	(06 Marks)
and atmity.	
Module-4	

Explain working fluidized bed gassifier with the help of a neat sketch. What is anaerobic digestion? Explain in brief. (07 Marks) 7 (07 Marks) (06 Marks)

Explain utility tidal waves as a source of energy

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OR

8 a. Explain working of a fixed dome type biogas plant, using a neat sketch of the same.

(07 Marks)

- b. Classify gassifiers on the basis of direction of air/oxygen flow in the equipment. Explain in brief the working of cross draft gassifier. (07 Marks)
- c. Discuss working of a tidal power plant with the help of a neat sketch.

(06 Marks)

Module-5

- 9 a. What is sea wave energy? Explain in brief the challenges in harnessing the sea wave energy.
 (07 Marks)
 - b. What are the different devices available for harnessing the sea wave energy? Explain in brief.

 (07 Marks)
 - c. Explain the principles of ocean thermal energy conversion.

(06 Marks)

OR

10 a. Explain working of Salter's duck, with the help of a neat sketch.

(07 Marks)

b. Discuss merits and demerits of sea wave power.

(07 Marks)

c. Discuss different applications of Ocean Thermal Energy Conversion (OTEC), including electricity generation. (06 Marks)

4. C.

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