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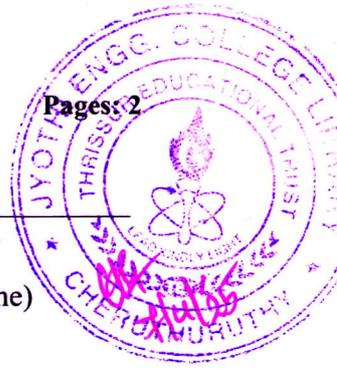
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Reg No.: _____

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree 7th semester (S,FE) Exam April 2025 (2019 Scheme)



Course Code: MRT433

Course Name: RENEWABLE ENERGY

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks.

		Marks
1	Differentiate between flat plate collectors and solar concentrators.	(3)
2	What is the principle of conversion of solar energy into heat?	(3)
3	List the advantages and limitations of tidal power plant.	(3)
4	What are the methods used to avoid biofouling?	(3)
5	List advantages and disadvantages of wind energy conversion system.	(3)
6	Discuss the different types of wind turbine rotors used to extract wind.	(3)
7	Explain the importance of biomass programmes in India.	(3)
8	Draw the schematic of a Janata model of bio gas plant.	(3)
9	List out the advantages of small hydro schemes.	(3)
10	Explain the various classifications of fuel cell.	(3)

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

11 Draw the block diagram of a solar thermal electric plant and explain its working. (14)

OR

12 Explain the global scenario of conventional and non conventional energy resources. (14)

Module II

13 With a neat sketch explain the major components of a tidal power plant. (14)

OR

14 Discuss the basic principle of OTEC with its advantages and disadvantages. (14)
Describe a closed cycle OTEC.

Module III

15 Explain the various classifications of wind energy conversion system. (14)

OR

16 Explain vertical axis wind turbine with necessary diagrams. (14)

Module IV

17 What are biomass resources? Enumerate the processes which are used for biomass conversion. (14)

OR

18 Explain the construction and performance of floating drum type biogas plant with the help of a neat sketch. (14)

Module V

19 Explain the components of a micro hydel power plant with neat diagram. (14)

20 Explain the operation of a phosphoric acid fuel cell with the help of a suitable diagram. (14)
