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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

EIGHTH SEMESTER B.TECH DEGREE EXAMINATION(S), OCTOBER 2019

Course Code: BT362

Course Name: SUSTAINABLE ENERGY PROCESSES

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks. Marks

1	a)	What are the different renewable and non renewable energy sources	(6)
	b)	Explain the global energy scenario	(5)
	c)	Disadvantages of conventional energy sources	(4)
2	a)	Describe working principles of solar pond energy conversion system	(8)
	b)	Explain the working principle of flat plate collector?	(7)
3	a)	Explain renewable energy sources, potentials, achievements and applications	(4)
	b)	Explain working principle of solar p-v cells?	(8)
	c)	What are the problems with fossil fuels	(3)

PART B

Answer any two full questions, each carries 15 marks.

4	a)	Explain the working of a 'wind turbine' with a properly labelled diagram	(7)
	b)	Differentiate between 'Horizontal axis turbines' and 'Vertical axis turbines'	(8)
5	a)	List out the applications of Biofuels ?	(5)
	b)	Differentiate pyrolysis and gasification?	(5)
	c)	List out various types of Biomass resources?	(5)
6	a)	Explain application and limitation wind energy ?	(5)
	b)	Explain the production of Biodiesel with a neat flow chart and its applications?	(10)

PART C

Answer any two full questions, each carries 20 marks.

7	a)	What are the ocean thermal electric conversion strategies commonly employed? With detailed diagrams describe each one.	(10)
	b)	Give notes on positive and negative attributes of hydropower?	(10)
8	a)	Explain alkaline fuel cell; also explain their working principle and construction?	(6)
	b)	Define magneto-hydro dynamics and their working principle?	(10)
	c)	Classify fuel cell and their applications?	(4)
9	a)	Explain phosphoric acid fuel cell; also explain their working principle and construction?	(10)
	b)	Explain various geothermal energy conversion systems?	(10)

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