GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII(NEW) EXAMINATION – SUMMER 2019

Subject Code:2170505   **Date:27/05/2019**

Subject Name:Energy Technology

Time:02:30 PM TO 05:00 PM   **Total Marks: 70**

Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			MARKS
Q.1	**(a)**	Name the six factors affecting to biogas production.	03
	(b)	Write short note on fusion & fission.	04
	(c)	List Indian types of biogas plant explain any one.	07
Q.2	**(a)**	Define following: Calorific Value, Gross Calorific Value and Net Calorific Value.	03
	(b)	Give the Classification of coal in detail.	04
	(c)	Explain proximate and ultimate analysis of coal in detail.	07
		OR	
	(c)	Describe construction and working of KVIC digester.	07
Q.3	**(a)**	Write a note on methods of utilizing tidal energy.	03
	(b)	Advantage and disadvantage of wind energy.	04
	(c)	Describe molten carbonate fuel cell.	07
		OR	
Q.3	**(a)**	Write a note on methods of utilizing tidal energy.	03
	(b)	What is washing of coal? Describe wash ability curve in detail.	04
	(c)	What is solar collector? List various types of focusing typeconcentrator and explain one of it.	07
Q.4	**(a)**	List out design issue and development status of magneto hydrodynamic power plant.	03
	(b)	Discuss the solar based method for a hydrogen generation.	04
	(c)	Explain the role of site selection for the installation of wind powerplant.	07
		OR	
Q.4	**(a)**	Write the applications of Geothermal Energy.	03
	(b)	How to handle hydrogen in safe way.	04
	(c)	What is OTEC? Explain closed cycle OTEC system in detail.	07
Q.5	**(a)**	List out the advantages and limitations of non- conventional energy sources.	03
	(b)	Write short note on components of nuclear reactor with neat figure.	04
	(c)	Discussed the advantages and application of different solar collectors.	07
		OR	
Q.5	**(a)**	List the application of biogas.	03
	(b)	Write short note on components of Tidal Power Plant.	04
	(c)	What is MHD? Explain the design problems involved in the development of MHD.	07

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