GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–VII (NEW) EXAMINATION – WINTER 2018

Subject Code: 2170505   **Date: 29/11/2018**

Subject Name: Energy Technology

Time: 10:30 AM TO 01:00 PM   **Total Marks: 70**

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

Q.1	**(a)**	List Indian types of biogas plant.	**03**
	(b)	What the criteria are for site selection of wind mill?	**04**
	(c)	Explain solar pond briefly. What are the applications of solar pond?	**07**
Q.2	**(a)**	Define biomass and list biomass energy resources.	**03**
	(b)	Explain why it is need to understand rank of coal.	**04**
	(c)	What is solar collector? List various types of line focusing type concentrator and explain one of it.	**07**
		OR	
	(c)	Describe construction and working of KVIC digester.	**07**
Q.3	**(a)**	Name the six factors affecting to biogas production.	**03**
	(b)	Write short note on fusion & fission.	**04**
	(c)	Explain proximate and ultimate analysis of coal in detail.	**07**
		OR	
Q.3	**(a)**	List various methods of producing hydrogen from different sources.	**03**
	(b)	How to handle hydrogen in safe way.	**04**
	(c)	Explain the methods of utilization of tidal energy.	**07**
Q.4	**(a)**	List the six site selection criteria for biogas Plant.	**03**
	(b)	Advantage and disadvantage of wind energy.	**04**
	(c)	Describe MCFC fuel cell.	**07**
		OR	
Q.4	**(a)**	List out the advantages and limitations of non-conventional energy sources.	**03**
	(b)	What is washing of coal? Describe washability curve in detail.	**04**
	(c)	What is OTEC? Explain closed cycle OTEC system in detail	**07**
Q.5	**(a)**	Write the applications of Geothermal Energy.	**03**
	(b)	Write short note on components of Tidal Power Plant.	**04**
	(c)	Discuss about current Indian energy source in respect of conventional and nonconventional.	**07**
		OR	
Q.5	**(a)**	Define following: Calorific Value, Gross Calorific Value, Net Calorific Value.	**03**
	(b)	Write short note on components of nuclear reactor with neat figure.	**04**
	(c)	Describe with neat sketch the working of a wind energy system with main components.	**07**

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