Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2170911 **Date: 29/04/2017**

Subject Name: Energy Conservation, and Audit(Departmental Elective - II)

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.**

Q.1	**(a)**	**Explain need of Energy Audit and Management.**	**07**
	(b)	**Explain General Principles of Energy Management.**	**07**
Q.2	**(a)**	**Explain impact of renewable energy on energy audit recommendations.**	**07**
	(b)	**Case studies of implemented energy cost optimization projects in electrical utilities as well as thermal utilities .**	**07**
		OR	
	(b)	**Explain Instruments for Audit and Monitoring Energy and Energy Savings.**	**07**
Q.3	**(a)**	**Explain Transformers loss reductions And parallel operations.**	**07**
	(b)	**Explain Type of Pumps, Also Give Detail parallel and series operating pump performance**	**07**
		OR	
Q.3	**(a)**	**Describe Furnaces- Types and classifications.**	**07**
	(b)	**Explain Thermic Fluid heaters, need and applications.**	**07**
Q.4	**(a)**	**Explain P.F. improvements in Electrical Power System.**	**07**
	(b)	**Explain Boilers- performance evaluation And Loss analysis.**	**07**
		OR	
Q.4	**(a)**	**Explain Water treatment and its impact on boiler losses.**	**07**
	(b)	**Explain Bloomers (Blowers) types & application**	**07**
Q.5	**(a)**	**Explain Compressed Air Systems Cooling towers, its types and performance assessment & limitations**	**07**
	(b)	**What is FBC and PFBC boilers & explain in detail**	**07**
		OR	
Q.5	**(a)**	**Explain integration of different systems in boiler operation**	**07**
	(b)	**Explain Boiler's limitations and constraints.**	**07**

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