

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2181916****Date: 15/11/2018****Subject Name: Energy Conservation And Management****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
<b>Q.1</b>	(a) State functions of BEE.	<b>03</b>
	(b) Define the terms: Return On Investment, Net Present Value, Internal Rate of Return, Time value of money	<b>04</b>
	(c) Classified various energy and explain in brief.	<b>07</b>
<b>Q.2</b>	(a) Compare Net Present Value and Internal Rate of Return.	<b>03</b>
	(b) What is energy security? Explain how it can be achieved?	<b>04</b>
	(c) Explain Simple pay back method with its advantage & limitation.	<b>07</b>
	<b>OR</b>	
	(c) Write note on 'Indian Energy scenario'.	<b>07</b>
<b>Q.3</b>	(a) Explain Sensitivity Analysis.	<b>03</b>
	(b) Discuss the role of Energy Service Companies for financial management.	<b>04</b>
	(c) Explain briefly the various elements of a monitoring and targeting system.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain need for energy audit.	<b>03</b>
	(b) State the basic principles and benefits of energy management.	<b>04</b>
	(c) Classify the energy audit & Explain the three phases of detailed energy audit.	<b>07</b>
<b>Q.4</b>	(a) Define the following terms: Dew Point temperature, HCV, Latent heat of fusion	<b>03</b>
	(b) Give tips for energy saving in Refrigeration and Air Conditioning plant.	<b>04</b>
	(c) Define boiler efficiency and evaporation ratio. Write step wise procedure to calculate Boiler efficiency.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Mention the various source of waste heat recovery.	<b>03</b>
	(b) List advantages and applications of cogeneration.	<b>04</b>
	(c) Explain topping cycle co-generation plant with sketch.	<b>07</b>
<b>Q.5</b>	(a) Give tips for energy saving in furnace.	<b>03</b>
	(b) What are the features of Energy Conservation act – 2011.	<b>04</b>
	(c) Explain the importance of CUSUM chart and its procedure to analyze the case with help of diagrams.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) List the key instruments for energy audit.	<b>03</b>
	(b) How to make lighting system of your college campus more efficient?	<b>04</b>
	(c) Explain Prototype Carbon Fund (PCF).	<b>07</b>

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