

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII EXAMINATION – SUMMER 2025

Subject Code:2181916

Date:27-05-2025

Subject Name: Energy Conservation and Management

Time:10:30 PM 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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Classify: Energy Sources.	03
	(b) List the features of Energy Conservation (EC) Act 2001.	04
	(c) Explain the role of BEE in implementing Energy Conservation.	07
Q.2	(a) Define the terms: NPV ,IRR, Cash flow	03
	(b) Explain the role of Energy Service Companies (ESCOs.)	04
	(c) Discuss the important duties of energy manager in industry as per Energy conservation act-2001	07
	OR	
	(c) Write a short note on Energy Management Information Systems (EMIS).	07
Q.3	(a) What is energy audit? Why is it needed?	03
	(b) Explain briefly the Cumulative sum of differences (CUSUM).	04
	(c) Classify the energy audit & Explain the three phases of detailed energy audit.	07
	OR	
Q.3	(a) Explain these terms: (1) Monitoring (2) Targeting	03
	(b) State the basic principles and benefits of energy management.	04
	(c) Write a short note on: Energy audit instruments.	07
Q.4	(a) List the benefits of heat recovery system.	03
	(b) Explain with neat diagram the topping cycle co-generation plant.	04
	(c) Discuss the energy saving opportunities in Air conditioning plant.	07
	OR	
Q.4	(a) What is economic thickness of insulation?	03
	(b) Explain these terms briefly: (i) CFBC boiler (ii) Boiler Blow down.	04
	(c) Explain the indirect method to determine the thermal efficiency of boiler plant.	07
Q.5	(a) What is Kyoto Protocol?	03
	(b) Classify the Heat Exchangers.	04
	(c) Explain the Clean Development Mechanism (CDM)	07
	OR	
Q.5	(a) List the commercially viable waste heat recovery devices.	03
	(b) Explain: PCF (Prototype Carbon Fund)	04
	(c) Write a short note on: “Bachat Lamp Yojna.”	07
