

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2024

Subject Code:3160916

Date:02-12-2024

Subject Name: Energy Conservation

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.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

Q.1	(a) What are the main causes for T & D losses?	03
	(b) What is importance of energy audit?	04
	(c) Explain general principles of energy management & skills required for energy management.	07
Q.2	(a) Explain the meaning of energy management skills.	03
	(b) List out the instruments for audit & monitoring energy & energy savings.	04
	(c) Write short note on demand side management.	07
	OR	
	(c) Discuss the guidelines for writing the energy audit report.	07
Q.3	(a) Explain need of starters both for a.c & d.c motors.	03
	(b) What do you mean by load management?	04
	(c) Define harmonics & Explain harmonic reduction techniques.	07
	OR	
Q.3	(a) Write importance of parallel operation of transformers.	03
	(b) Explain the effect of low power system on electrical systems.	04
	(c) Write short note on automatic power factor controllers.	07
Q.4	(a) Explain cooling towers.	03
	(b) What are the advances in boiler technology?	04
	(c) Describe the methods to improve the performance of compressed air system.	07
	OR	
Q.4	(a) List out essential qualities of a good boiler.	03
	(b) Write advantages & disadvantages of L.E.D.	04
	(c) Discuss heat recovery boilers & write it's limitations & constrains.	07
Q.5	(a) What is FBC boiler?	03
	(b) Define energy savings in pumps & pumping systems.	04
	(c) Discuss steam utilization properties, distribution, losses & steam trapping.	07
	OR	
Q.5	(a) Explain the performance of pump in series & parallel operation.	03
	(b) Define furnaces refractory-types & sections.	04
	(c) Write short note on energy saving in blowers.	07
