

**GIET UNIVERSITY, GUNUPUR - 765022**

B. Tech (Sixth Semester Regular) Examinations, May - 2024

**21BELPE36001/21BEEPE36001- Energy Management & Auditing
(EE & EEE)**

Time: 3 hrs

Maximum: 70 Marks

(The figures in the right-hand margin indicate marks)**PART – A****(2 x 5 = 10 Marks)**Q.1. Answer **ALL** questions

	CO #	Blooms Level
a. Explore the consequences of Acid rain on ecosystems and human well-being.	CO1	K3
b. Compare between electronic ballast and magnetic ballast.	CO5	K3
c. Elaborate on the key attributes of energy-efficient motors.	CO4	K4
d. List the different types of energy audits.	CO2	K2
e. Draw the line diagram of Material and energy balance.	CO3	K4

PART – B**(15 x 4 = 60 Marks)**Answer **ALL** questions

	Marks	CO #	Blooms Level
2. a. Provide an overview of the various types and phases of energy audits.	7	CO2	K3
b. How does power factor correction equipment, such as capacitors, work to improve power factor?	8	CO4	K2
(OR)			
c. Enumerate the positive aspects of energy conservation and underscore its importance.	7	CO1	K3
d. Give a summary of the various types of motors used in industry and provide a brief explanation of the different forms of losses encountered in electric motors.	8	CO5	K3
3.a. Why is electrical load management important and how can you effectively control maximum demand through a systematic approach?	7	CO4	K2
b. How will benchmarking affect energy performance, and vice versa?	8	CO2	K3
(OR)			
c. Write short note on the following	7	CO2	K2
i) Energy pricing			
ii) Energy sector reforms			
d. Illustrate the types of energy efficient lighting controls and their features	8	CO6	K3
4.a. Elaborate on the restructuring of the energy supply sector.	7	CO1	K4
b. Explain about energy saving opportunities in Energy efficient motors	8	CO5	K2
(OR)			
c. Describe the techniques employed to create a Process flow in various industries.	7	CO3	K2
d. What is the role of Automatic power factor controllers in energy saving applications	8	CO6	K2
5.a. Discuss the key characteristics of the Energy Conservation Act of 2001.	7	CO2	K3
b. What is power factor correction, and how does it differ from power factor improvement?	8	CO5	K3
(OR)			
c. Discuss the significance of energy audit instruments in the process of Energy Auditing.	7	CO3	K3
d. How do VFDs facilitate soft starting and stopping of motors? What are the benefits of soft-start capabilities?	8	CO6	K2

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