

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

M.E DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Third Semester

Power Systems Engineering

PS4071 – Energy Management and Auditing

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	What do you mean by non-conventional energy sources?	RE	1	2
2.	Recall the role of energy auditor?	RE	1	2
3.	Define energy cost.	UN	2	2
4.	List the purpose of economic models.	RE	2	2
5.	Why is demand side management important?	UN	3	2
6.	Define dynamic demand.	UN	3	2
7.	List the types of energy audit.	RE	4	2
8.	Mention the use of leak detector in energy audit.	RE	4	2
9.	What is the role of synchronous condenser?	UN	5	2
10.	Why LED is preferred source for lighting compared to others?	UN	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Discuss various forms of non-conventional energy sources with relevant diagrams.	UN	1	13
	Or			
	b i Describe the roles and responsibilities of energy managers and energy auditors in energy management.	UN	1	7
	ii Elaborate the statutory provisions of the energy standards and labelling scheme.	UN	1	6
12.	a Enumerate the different cost factors involved in metering.	AP	2	13
	Or			
	b Compose details of utility monitoring and control system.	AP	2	13
13.	a Comprehend on demand side energy management towards smart grids in terms of challenges, solutions, and future direction.	AN	3	13
	Or			

	b	Give a detailed review on load management techniques and pricing model for demand side management.	AN	3	13
14.	a	Describe the Phase I, II & III Energy audit methodologies in detail.	AP	4	13
		Or			
	b	What is the role of energy audit instruments? Draw and explain the operation of any three instruments used in energy audit.	AP	4	13
15.	a i.	Discuss various ways by which energy can be saved in electric motors.	AP	5	7
	ii.	Why power factor is to be maintained high? List and explain the techniques by which it is achieved?	AP	5	6
		Or			
	b	Demonstrate various energy efficiency improvement opportunities in lighting system.	AP	5	13

*PART – C (Marks 1*15 = 15)*

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	Explain the details about economic models for determining energy cost.	AN	2	15
		Or			
	b	Elaborate the energy audit procedure for generation, distribution and utilization systems.	AN	4	15