



R20 Regulation

Subject code:3E6BA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VI Semester Supplementary Examinations, December 2024

ELECTRICAL ENERGY CONSERVATION AND AUDITING (EEE)

Maximum Marks: 70

Date:07.01.2025

Duration: 3 hours

- Note:
- 1.This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20) Marks)		CO	Bloom Tx
1	What is the primary difference between commercial and non-commercial energy sources?	1	L1
2	Define energy conservation	1	L1
3	What is load management?	2	L1
4	Define calorific value.	2	L1
5	What is an energy audit?	3	L1
6	What is fuel and energy substitution in energy management?	3	L1
7	How does maximum demand control help in reducing electricity costs?	4	L1
8	How is the performance of power factor capacitors assessed?	4	L1
9	What is one way to improve the efficiency of a compressed air system?	5	L1
10	List critical components of a compressed air system	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	Develop a long-term energy scenario for India considering factors such as population growth, technological advancements, and policy changes. [10M]	1	L2
OR			
12	Analyze in detail the Energy conservation Act 2001 and its features. [10M]	1	L2
13	Describe the importance of power factor improvement in electrical systems. Discuss the methods used to improve power factor. [10M]	2	L2
OR			
14	A)Describe the concept of heat capacity and its significance in thermal energy management. [5M] B)Explain different modes of heat transfer in industrial applications. [5M]	2	L2
15	Discuss the concept of fuel and energy substitution in energy management. Explain the benefits. [10M]	3	L2
OR			
16	Describe the concept of demand side management (DSM) and its role in energy management. [10M]	3	L2

17	Describe the types of losses that occur in electrical distribution systems and transformers. [10M]	4	L2
	OR		
18	Discuss the different components of an electricity bill and explain how each component affects the overall cost of electricity for industrial and commercial consumers. [10M]	4	L2
19	Analyze the factors affecting compressor efficiency and describe methods to improve the efficiency of compressed air systems. [10M]	5	L2
	OR		
20	Analyze the different types of fans and blowers used in industrial and commercial applications. [10M]	5	L2