PAPER ID-310589

Subject Code: KEE071

Roll No: | | | | | | | | | | | | | |

BTECH
(SEM VII) THEORY EXAMINATION 2023-24
ENERGY CONSERVATION AND AUDITING

TIME: 3 HRS **M.MARKS: 100**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief.

Q no.	Question	Marks	CO
a.	How can art and design be used to raise public awareness about energy conservation?	2	1
b.	In a world powered by unconventional energy, how would daily life differ from today?	2	1
c.	How can smart home devices contribute to effective demand-side management?	2	2
d.	What creative incentives could be introduced to promote consumer engagement in demand response programs?	2	2
e.	What are the key objectives of an energy audit for a commercial building?	2	3
f.	How does weather analysis factor into understanding energy consumption patterns during an audit?	2	3
g.	What are the key performance indicators (KPIs) evaluated during a comprehensive audit of mechanical systems?	2	4
h.	How can the findings of a system audit be translated into actionable recommendations for upgrading or replacing mechanical systems?	2	4
i.	In what ways do electric vehicles contribute to a more energy-efficient transportation system?	2	5
j.	How do green roofs and solar panels contribute to energy efficiency in urban environments?	2	5

SECTION B

2. Attempt any *three* of the following:

a.	Evaluate the energy Conservation in small scale and large-scale industries.	10	1
b.	Illustrate DSM Strategy, its implementation and application	10	2
c.	How could virtual reality enhance the experience of conducting and learning from an energy audit?	10	3
d.	Compare the shortage of reactive power in distribution systems which is compensated by Static VAR compensators.	10	4
e.	What is Energy Efficient Lighting? Summarize energy efficient lighting techniques.	10	5

SECTION C

3. Attempt any *one* part of the following:

a.	Create the energy strategy for the future as an electrical engineering or energy manager. How will you face the challenges regarding energy shortage at National level?	10	1
b.	As an electrical engineer, what should be the action plan on national level to fight with climate change.	10	1

4. Attempt any *one* part of the following:

a.	Demonstrate concept and scope of demand side management.	10	2
b.	What are the important elements of energy monitoring and targeting? Explain the energy management information system.	10	2

5. Attempt any *one* part of the following:

a.	What do you mean by energy audit? Differentiate between the work of energy manager and energy auditor.	10	3
b.	How can we implement the energy conversation program in India? Explain with the help of necessary process flow diagram.	10	3

6. Attempt any *one* part of the following:

a.	Discuss the Capacitors unit, bank rating used in distribution system. Explain their advantages and limitations	10	4
b.	How can we apply the concept of energy saving in pumps and boilers?	10	4

7. Attempt any *one* part of the following:

a.	What is Indian Electricity act 1956? Summarize Electricity Bill 2003.	10	5
b.	Explain Efficiency in Motors and Lighting system. Discuss energy efficient motors.	10	5