

**FACULTY OF ENGINEERING & TECHNOLOGY,
SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
Cycle Test – I**

Academic Year: 2022-2023 (ODD SEM)
Program offered: B. Tech
Year / Sem : III/V
Course Code and Title: 18EE0306T/Energy Conservation
Maximum Marks: 25
Duration: 25 mins

Learning Assessment (CLA 1)			
Levels	Level of Thinking	Weightage Required (%)	Weightage Provided (%)
1	Remember	15%	14%
	Understand		
2	Apply	20%	22%
	Analyse		
3	Evaluate	15%	14%
	Create		

PART A (Answer all the questions)

10*1 MARKS=10 MARKS

Q. No.	Questions	Reference to CO	Reference to PO	Blooms Taxonomy	Marks Allotted	Answer
1	Which of the following is commercial energy source? a) Electricity b) Coal c) Oil d) All the above	CO1	1	Remember	1	A
2	Indian per capita energy consumption is _____ of the world average. a) 4% b) 20% c) 1% d) 10%	CO1	2	Analyze	1	B
3	Energy consumption per unit of GDP is called as: a) Energy Ratio b) Energy intensity c) Per capita consumption d) None	CO1	1	Understand	1	B
4	The objective of energy management includes a) Minimising energy costs b) minimising waste c) Minimising environmental degradation d) all the above	CO1	1	Remember	1	D
5	Lux meter is used to measure..... a) Illumination level b) Sound intensity and illumination level c) Harmonics d) Speed	CO1	2	Analyze	1	A
6	An energy policy does not include a) Target energy consumption reduction b) Time period for reduction c) Declaration of top management commitment d) Future production projection	CO1	1	Understand	1	D
7	The positive force field analysis has one of the following. Identify? a) Force field itself b) Corporate energy philosophy c) Energy policy itself d) None of the above	CO1	1	Analyze	1	B
8	The energy manager has to perform the function of _____. 1) Organizer 2) Planner 3) Decision Maker 4) Team leader a) 1,2 & 3 b) 1 & 2 only c) 1,2 & 4 d) All the four above	CO1	2	Understand	1	D
9	The ozone layer in the stratosphere acts as an efficient filter for _____. a) Solar UV- B rays b) X-rays c) Gamma rays d) UV-A rays	CO1	1	Understand	1	A
10	CFC stands for _____. a) Chloro Fluoro Carbons b) Carbon Fluorine Carbon c) Compact Fluoro Carbons d) None of the above	CO1	2	Remember	1	A

PART B (Answer all questions)

3*5 MARKS= 15 MARKS

Q. No.	Questions	Reference to CO	Reference to PO	Blooms Taxonomy	Marks Allotted	Marks Scored
11	How energy pricing is done in India?	CO1	3	Analyze	5	
<p><i>Coal:</i> Grade wise basic price of coal at the pithead excluding statutory levies for run-of-mine (ROM) coal are fixed by Coal India Ltd from time to time. The pithead price of coal in India compares favourably with price of imported coal. In spite of this, industries still import coal due to its higher calorific value and low ash content.</p> <p><i>Oil:</i> As part of the energy sector reforms, the government has attempted to bring prices for many of the petroleum products (naphtha, furnace oil, LSHS, LDO and bitumen) in line with international prices. The most important achievement has been the linking of diesel prices to international prices and a reduction in subsidy. However, LPG and kerosene, consumed mainly by domestic sectors, continue to be heavily subsidised. Subsidies and cross-subsidies have resulted in serious distortions in prices, as they do not reflect economic costs at all in many cases.</p> <p><i>Natural Gas:</i> The government has been the sole authority for fixing the price of natural gas in the country. It has also been taking decisions on the allocation of gas to various competing consumers.</p> <p><i>Electricity:</i> Electricity tariffs in India are structured in a relatively simple manner. While high tension consumers are charged based on both demand (kVA) and energy (kWh), the low-tension (LT) consumer pays only for the energy consumed (kWh) as per tariff system in most of the electricity boards. In addition to the base tariffs, some of the State Electricity Boards have additional recovery from customers in form of fuel surcharges, electricity duties and taxes.</p>						
12	Distinguish between 'preliminary energy audit' and 'detailed energy audit'?	CO1	1	Remember	5	
<p>Preliminary energy audit is a relatively quick exercise to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Establish energy consumption in the organization <input type="checkbox"/> Estimate the scope for saving <input type="checkbox"/> Identify the most likely (and the easiest areas for attention) <input type="checkbox"/> Identify immediate (especially no-/low-cost) improvements/ savings <input type="checkbox"/> Set a 'reference point' <input type="checkbox"/> Identify areas for more detailed study/measurement <input type="checkbox"/> Preliminary energy audit uses existing, or easily obtained data <p>Whereas, detailed energy audit</p> <ul style="list-style-type: none"> • Provides a detailed energy project implementation plan for a facility, since it evaluates all major energy using systems. • Offers the most accurate estimate of energy savings and cost. • Considers the interactive effects of all projects, accounts for the energy use of all major equipment, and • Includes detailed energy cost saving calculations and project cost. <p>Arrives energy balance based on an inventory of energy using systems, assumptions of current operating conditions and calculations of energy use. This estimated use is then compared to utility bill charges.</p>						
13	Write down the steps involved in 'Energy management Strategy'?	CO1	3	Analyze	5	
<ol style="list-style-type: none"> 1. Identify a strategic corporate approach 2. Appoint energy manager 3. Set up an energy monitoring and reporting system 4. Conduct energy audit 5. Prepare an energy management policy statement 6. Prepare and undertake a detailed project implementation plan 7. Implement a staff awareness and training program 8. Annual review 						

CO ASSESSMENT		
Course Outcomes	Marks Allotted	Marks Scored
CO1	25	
CO2	-	
CO3	-	
CO4	-	
CO5	-	
Total	25	

Total Marks:

Signature of the Faculty