Enrollment No: _		 	Exam Seat No:		
	~	 ~	 	~	

C. U. SHAH UNIVERSITY Summer Examination-2022

Subject Name: Energy Management & Audit

Subject Code: 4TE08EMA1 Branch: B.Tech (Electrical)

Semester: 8 Date: 04/05/2022 Time: 11:00 To 02:00 Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1 Attempt the following questions:

(14)

- **A.** Energy management is a key component of
 - a. Environmental management
 - b. Carbon management
 - c. Nitrogen management
 - d. Water management
- **B.** The main objective of energy management is to
 - a. Minimize energy cost
 - b. Minimum environmental effects
 - c. Maintain optimum energy procurement and utilization
 - d. Only A and B
 - e. All of these
- **C.** Lux meter is used to measure.....
 - a) Illumination level
 - b) Sound intensity and illumination level
 - c) Harmonics
 - d) Speed
- **D.** The energy management function is generally vested in
 - (a) Senior Management
 - (b) One energy manager or co-ordinator



	(c) Distributed among number of middle manager
	(d) (b) & (c) together
T.	
Е.	One unit of electricity is equivalent to kcal heat units.
	a) 800
	b) 860
	c) 400
	d) 680
F.	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
G.	Which of the following is commercial energy source?
	a) Electricity
	b) Coal
	c) Oil
	d) All the above
н.	Energy consumption per unit of GDP is called as:
	a) Energy Ratio
	b) Energy intensity
	c) Per capita consumption
	d) None
I.	Non contact speed measurements can be carried out by
	(a) Tachometer
	(b) Stroboscope



- (c) Oscilloscope (d) Odometer J. Maximum demand charges are given in a. kWh b. kVA c. kVAr d. All of these e. None of these K. The energy strategies of companies have the principle of a. restoring and preserving the environment b. reducing wastes and pollutants c. educating the people about energy conservation d. all of these e. none of these L. Cloud base energy management system provides the ability to a. Remotely control HVAC b. Collect real time data c. Generate intelligent, specific and real time guidance d. Only b and c e. All of these M. To reduce the power consumption, the capacitors should be located a. As close as possible to the load b. As far as possible to the load c. Not too close not too far from the load d. All of these e. None of these
 - N. The wattles component is
 - a. I
 - b. I cos∅
 - c. I sinØ
 - d. None of these

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions **(14)**

Discuss the energy supply for the following resources in India. (a)



	(b)	(i) Solar Energy (ii) Wind Energy Explain Energy Conservation and its Importance.	
Q-3	(a)	Attempt all questions Explain the functions of BEE.	(14)
	(b)	Discuss the method to be followed for preliminary energy audit.	
Q-4	(a)	Attempt all questions Explain difference between Renewable & Non Renewable energy	(14)
	(b)	sources. Explain the Roles and responsibilities of energy manager.	
Q-5		Attempt all questions	(14)
	(a)	How can we reduce the power consumption of an air-conditioning system? Explain in brief.	
	(b)	Explain how organizations motivate staff and employees for energy management.	
Q-6		Attempt all questions	(14)
	(a) (b)	Explain Energy Performance Assessment of HVAC Systems. What is HF Ballast? Advantages of HF Ballast.	
Q-7		Attempt all questions	(14)
	(a) (b)	What are the Features Of Energy Accounting Software? Explain Automatic power factor controllers with suitable example.	
Q-8		Attempt all questions	(14)
	(a) (b)	What you mean by energy efficient motor? Explain briefly. Explain briefly about soft starter	

