Enrollment No:			Ex	am Seat No:				
		C.U.SHA	H UNI	VERSITY				
				ation-2017				
-		ergy Management & FE08EMA1		Branch: B.Tech (EE,EF	CE)			
Semesto Instructi		Date: 15/04/201	7 T	ime: 02:30 To 05:30	Marks: 70			
(2) (3)	Instructions Draw neat	grammable calculator s written on main ansy diagrams and figures itable data if needed.	wer book are		orohibited.			
	Attempt	the following question	ons:			(14)		
a)	The worl	d oil reserves is expec	cted to last an	other				
	(a) 300 y	ears (b) 45 years (c)	600 years (d) forever				
b)	The ener	gy conservation act re	equires that al	l designated energy cons	umers should			
	get energ	get energy audits conducted by						
	(a) Energ	gy manager	(b) Manag	ging director				
	(c) Accre	edited energy auditor	(d) Energy	auditor				
c)	To assess	s the existing situation	n of a plant, g	good energy saving strate	gy plan starts			
	with							
	(a) Train	(a) Training (b) Energy management (c) Seminar d) Energy audit						
d)	Which of	f the below can be con	nsidered as ne	egative force?				
	a) High p	orice of energy	b) Ef	fective energy policy				
	c) Absen	c) Absence of corporate energy policy d) Reduction in energy price						
e)		evice is designed to magement?	neet the need	of industries conscious o	f the value of			
	(a) SMP	S	(b) Pow	er Factor Controller				

(c) Maximum Demand Controller (d) Voltage controller

Q-1

- f) Illumination levels can be measured with.....
 - (a) Lux meter (b) Combustion analyzer (c) Manometer (d) Tachometer
- g) The contribution of CO2 to the greenhouse gases is



	h)	Non-contact flow measurement can be carried out by				
	i)	Define energy audit				
	j)	What is the significance of knowing the energy costs?				
	k)	What are the equipments / devices contributing to the harmonics?				
	1)	Why centrifugal machine offers the greatest savings when used with Variable				
		Speed Drives?				
	m)	Explain the role of training and awareness in energy management programmer				
	n)	Name the one instrument used to measure CO2 from boilers stack				
Atten	npt any	four questions from Q-2 to Q-8				
Q-2		Attempt all questions	(14)			
	(a)	Define the following terms with three examples for each -				
		a) Primary and Secondary Energy.	07			
		b) Commercial and Non-commercial Energy.c) Renewable and Non-renewable Energy.				
	(b)	Explain in detailed the benefits of benchmarking energy consumption	07			
Q-3		Attempt all questions	(14)			
	(a)	Explain the steps involved in the force field analysis. Taking your own industry	07			
		as an example, list the positive and negative forces				
	(b)	What are the various steps in the implementation of energy management in an organization?	07			
Q-4		Attempt all questions	(14)			
	(a)	Explain in detailed only Ten Steps Methodology for Energy Audit.	07			
	(b)	Explain energy conservation Act-2001 and its feature.	07			
Q-5		Attempt all questions	(14)			
	(a)	Explain the working of a Soft starter and its advantage over other conventional	07			
		starters.				
	(b)	Explain why centrifugal machines offers the greatest savings when used with	07			
		Variable Speed Drives.				

(a) 23% (b) 95% (c)54% (d) 33%



Q-6		Attempt all questions	(14)
	(a)	Explain how maximum demand control works and its requirement in industry.	
	(b)	What are the advantages of Energy Efficient Motors? Explain the Energy Audit	07
		instruments used.	
Q-7		Attempt all questions	(14)
	(a)	Explain the principle of Automatic Power Factor Controller.	07
	(b)	Explain, how fluctuations in plant voltage can be overcome.	07
Q-8		Attempt all questions	(14)
	(a)	What do you understand by the term fuel substitution? Give examples.	07
	(b)	i) Differentiate between Energy conservation and energy efficiency.	07
		ii) Differentiate between preliminary and detailed energy audits	



