

17559

21718									
3 Hours/100 Ma	arks	Seat No.							
Instructions :	 All qui Illustri Figure Figure Assumi Mobili device Use oj 	pestions are comp pate your answer, es to the right in the suitable data, e Phone, Pager d es are not permis f Steam tables, la	pulsory . s with nec dicate fu if necess and any o ssible in 1 ogarithmi	at sketc II mark ary . ther Ela Examin ic, Mol	hes wi s. ectron ation lier's d	herev ic Co Hall. chart	er nec mmun is per	cessar <u>;</u> nicatio rmittec	y. n 1. Marks
1. A) Attempt any three	e of the follo	wing:							12
a) Classify energ	y sources wi	ith examples.							
b) Give classifica	ations of coc	oling tower.							
c) Define calorifi	ic value and	specific heat.							
d) Explain bench	marking witl	h example.							
B) Attempt any one of	of the follow	ing :							6
a) Give types of t	fuels with ex	ample based on	physical s	state.					
b) Derive express	sion for pow	ver in wind.							
2. Attempt any four of the	he following	;:							16
a) Write any four ene	ergy conserv	ation opportuniti	es in cool	ing tow	vers.				
b) Compare convention pollution and appl	ional and no ication.	n-conventional e	energy sou	irces ba	ased o	n cost	:, avail	labilit	у,
c) Explain principle	of energy au	dit. Enlist instrur	nents used	d for en	ergy a	udit.			
d) Give the classifica shell and tube HE.	ntion of heat	exchanger based	on constr	ruction.	Draw	v neat	sketcł	h of 1,	1
e) Draw the block dia	agram of ele	ctricity generation	on from th	ermal j	power	plant	•		
3. Attempt any four of the	he following	;:							16
a) State any four the	salient featu	res of Energy Co	nservatio	n Act, 2	2001.				
b) Explain '3T's of co	ombustion w	vith diagram.							
-		-							

175	59	
	Ν	Iarks
	c) Give classification of boilers. Define boiler evaporation ratio.	
	d) Explain construction and working of box solar cooker.	
	e) Explain the steps to check performance assessment of boiler.	
4.	A) Answer any three of the following :	12
	a) Explain construction and working of biogas plant with neat sketch.	
	b) Define :	
	i) Active power	
	ii) Reactive power	
	iii) Appearent power	
	iv) Power factor.	
	c) Explain the concept of geothermal energy.	
	d) Give types of energy audit. Explain methodology of detailed energy audit.	
	B) Answer any one of the following :	6
	a) Explain efficiency calculation of boiler by direct method.	
	 b) An investment of Rs. 45,000 gives energy savings of Rs. 27,000 per yearly. Maintenance cost is Rs. 12,000. Calculate its payback period. Explain importance of pay back period in energy conservation projects. 	
5.	Attempt any two of the following :	16
	a) Explain PAT scheme with suitable examples.	
	b) Explain different parts of centrifugal pump with sketch.	
	c) List components of wind mill with their uses. Draw neat sketch of wind mill.	
6.	Attempt any two of the following :	16
	a) List the factors affecting cooling tower performance.	
	b) Explain energy management, energy conservation and energy efficiency with examples.	
	c) List any eight energy conservation opportunities in pump.	