Seat No.: _		Enrolment No		
		GUJARAT TECHNOLOGICAL UNIVERSITY		
	M.E –II st SEMESTER–EXAMINATION – JULY- 2012			
Subject code: 1721102 Date: 09/07/2			2012	
•		Name: Alternate fuels & Energy		
Time: 10:30 am – 13:00 pm Total I Instructions:			Marks: 70	
		empt all questions. ke suitable assumptions wherever necessary.		
		ares to the right indicate full marks.		
0.4			^ -	
Q.1	(a) (b)	Compare important properties of various gaseous fuels. Write short note on hydrogen engines.	07 07	
	(D)	write short note on nydrogen engines.	U7	
Q.2	(a)	State & explain the effect of equivalence ratio on emissions from engines	07	
	<i>a</i> >	fueled with methanol& gasoline.	0=	
	(b)	Compare ethanol and methanol as alternate to gasoline in I.C. engine OR	07	
	(b)	Discuss problems with using methanol in I.C. engines and its possible	07	
		solutions.		
Q.3	(a)	Explain modifications required for operating a S.I. engine on biogas.	07	
Q.S	(b)	Explain performance of I.C. engine using hydrogen as fuel.	07	
	` /	OR		
Q.3	(a)	Explain the process of biogas formation.	07	
	(b)	Give merits and demerits of hydrogen as fuel for I.C. engines.	07	
Q.4	(a)	Explain trans-esterification process of biodiesel production from vegetable	07	
	. ,	oil.		
	(b)	Compare emission of dual fuel engine with conventional fuel engines. OR	07	
Q.4	(a)	Discuss various methods of hydrogen production in short.	07	
Q.4	(b)	Explain performance of I.C engine using LPG as fuel.	07	
Q.5	(a)	State and explain latest developments in solar and hybrid vehicles.	07	
Q.S	(b)	Explain about different batteries used in electric vehicle in short.	07	
	(-)	OR	- "	
Q.5	(a)	Explain series and parallel hybrid vehicle configuration in detail with	07	
	(b)	figure. Describe with neat sketch working of electric vehicle.	07	
	(b)	Describe with heat sketch working of electric vehicle.	U/	
