Seat No.: _		Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY	
	M. E SEMESTER – II • EXAMINATION – SUMMER • 2014		
Subj	ect co	ode: 1721102 Date: 18-06-2014	
Subj	ect Na	ame: Alternate Fuels and Energy	
Time	: 02:	30 pm - 05:00 pm Total Marks: 70	
Instr	uctio	ons:	
		Attempt all questions.	
		Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
	J. T	aguies to the right indicate full marks.	
Q.1	(a)	Enlist in brief Various Alternate fuels. What is the need of Alternate fuels in present scenario?	
	(b)	Give comparison between LPG car and CNG car. What way these cars are different from a Petrol car and a Diesel car?	07
Q.2	(a) (b)	Give Merits and Demerits of Hydrogen as fuel in I.C. Engines. Discuss modifications required for operating a S.I. Engine on biogas.	07 07
	(6)	OR	07
	(b)	Discuss properties of alcohols and explain any one method of its production.	07
Q.3	(a)	Explain Construction and working of electric vehicle with neat diagram. Also state its limitations.	07
	(b)	Compare Conventional fuels with Alternate fuels. How can you say that novel fuels are eco friendly?	07
0.2	(-)	OR	00
Q.3	(a) (b)	Explain in brief Production and storage of hydrogen. Explain Performance and emission characteristics of CNG.	09 05
Q.4	(a) (b)	Explain process of biodiesel production from vegetable oil. Graphically compare the percentage effect of bio-diesel on specific fuel consumption, brake thermal efficiency and exhaust emissions. OR	07 07
Q.4	(a)	Discuss Ignition accelerators briefly. Write short on :Optimum combustion in I.C. engines.	08
	(b)	State the relative merits and demerits of various Alternate fuels.	06
Q.5	(a) (b)	Explain use of methanol and gasoline blends in I.C.Engine. What do you understand by Fuel and Combustion? State important properties of various gaseous fuels.	07 07
		OR	
Q.5	(a)	Write short note on Solar energy based vehicles. Also discuss latest development in automobile sector.	07
	(b)	Write note on Hybrid vehicles.	07
