Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VII • EXAMINATION – WINTER 2013

Subject Code: 170205 Date: 03-1		2-2013	
•	: 10:30 ctions:	me: Alternative Fuels and Engines O TO 01:00 Total Marks	s: 7(
	2. Ma	tempt all questions. The suitable assumptions wherever necessary. The suitable assumptions wherever necessary.	
Q.1	(a)	Explain sources of fossil fuel, scope of availability of fossil fuel in future.	06
	(b) (c)	Explain Green house effect Write Emission norms as per Bharat Standard for BS-IV	04 04
Q.2	(a) (b)	Explain sources of Methanol and Ethanol, methods of its production. Discuss Improvement in emission characteristics with respect to % blending of Alcohol.	07 07
		OR	
	(b)	Explain process of separation of Bio-diesel.	07
Q.3	(a)	Explain layout of hydrogen car.	07
	(b)	Write economics of application and advantages of liquid hydrogen as fuel for IC engine.	07
		OR	
Q.3	(a) (b)	Draw with neat sketch a layout for fuel cell vehicle and discuss about it. Explain properties ,sources and method of production of Hydrogen.	07 07
Q.4	(a) (b)	Explain properties of LPG and CNG as engine fuels. Discuss uses of Bio gas in IC engine. OR	07 07
Q.4	(a)	Explain layout of solar powered automobiles.	07
	(b)	Discuss Eco friendly plastic fuels(EPF)	07
Q.5	(a)	Explain advantages and limitation of electric vehicles.	07
	(b)	Explain Sterling engine and free piston engine.	07
Q.5	(a)	OR Discuss Multi fuel engine.	07
V. 2	(b)	Explain performance and emission characteristic of vegetable oil with addition to fuel.	07
