Enrolment No

S	GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VII (OLD) - EXAMINATION - SUMMER 2017 Subject Code: 170205 Date: 29/04/2017 Subject Name: Alternative Fuels & Engines (Department Elective-I) Time: 02:30 PM to 05:00 PM Total Marks: 70 Instructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.			
Q.1	(a) (b)	Classify various types of fuels? What are its requirements? Explain different physical & chemical properties of petrol.	07 07	
Q.2	(a)	What are the Emission norms as per Bharat Standard up to BS – IV and	07	
	(b)	procedures for confirmation on production of Alternative Fuels? Explain about Ethanol as an alternate fuel in SI engine & production of Ethanol. OR	07	
	(b)	Explain the Improvement/Change in emission characteristics with respect to % blending of Alcohol in fuels.	07	
Q.3	(a)	Explain about Biodiesel as CI engine fuel.	07	
	(b)	Explain Transesterification Process. OR	07	
Q.3	(a)	Explain the performance characteristics of % blending of Neem oil with fuel.	07	
0.4	(b)	Write short note on "biogas as a vehicular fuel"?	07	
Q.4	(a) (b)	Classify fuel cells and explain any one in detail. Compare engine performance between CNG and diesel as a fuel. OR	07 07	
Q.4	(a) (b)	Explain with neat sketch layout of an electric vehicle? Write a short note on Eco Friendly Plastic Fuels (EPF).	07 07	
Q.5	(a) (b)	Explain the scope of Hybrid Vehicles in India. Explain the construction, working, merits and demerits of Solar Vehicle.	07 07	

(a) Explain Free piston engine.(b) Write a short note on Wankel Engine.

Q.5

OR

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