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## GUJARAT TECHNOLOGICAL UNIVERSITY

ME SEMESTER – I EXAMINATION – SUMMER 2017

Subject Code: 2711110 Subject Name: Alternate Fuels and Energy			Date: 11/05/2017	
Ti	me: 2 tructio 1. 2.	2:30 PM TO 5:30 PM Total Marks ons: . Attempt all questions.	s: <b>70</b>	
Q.1	(a) (b)	Describe promising alternative fuels, their potential and importance in India. Discuss merits and demerits of LPG and CNG as automotive fuel.	07 07	
Q.2	(a) (b)	Discuss fuel properties of Methanol and Ethanol compared to Gasoline.  Describe use of shale oil, Coal liquid and Tar as alternate fuels.  OR	07 07	
	<b>(b)</b>	Describe and Compare alcohols and vegetable oil as alternate fuels for IC Engine.	07	
Q.3	(a) (b)	Discuss performance and emission characteristic of Biodiesel as fuel.  Describe performance and emission characteristic of IC engine using Alcohol Diesel emulsions as fuel.  OR	07 1 07	
Q.3	(a) (b)	Enlist and discuss use of ignition accelerators in IC Engine.  Describe production method of Biodiesel from Vegetable oil.	07 07	
Q.4	(a) (b)	Discuss performance and emission characteristic of CNG as fuel.  Explain storage, handling and safety aspects for Hydrogen fuel.  OR	07 07	
Q.4	(a) (b)	Describe modifications required to use LPG fuel in present SI Engine. Explain storage, handling and safety aspects for CNG fuel.	07 07	
Q.5	(a)	Describe importance, need and applications of high energy and power density batteries.	07	
	<b>(b)</b>	Explain layout and major components of solar powered car with neat sketch. <b>OR</b>	07	
Q.5	(a)	Enlist and compare different configurations of hybrid vehicle.	07	
	<b>(b)</b>	Enlist and describe modern technologies in the field of IC Engine.	07	

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