GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) - EXAMINATION - SUMMER 2016

Subject Code:2160207 Date:		ect Code:2160207 Date:06/05/201	06/05/2016	
	-	ect Name: Alternative fuel and power systems		
	Time: 10:30 AM to 01:00 PM Instructions: Total Ma		rks: 70	
	mstruc	 Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 		
Q.1	(a)	What is the need of alternative fuels? Discuss the barriers in implementing alternative fuels in India.	07	
	(b)	Write a short note on production process of Methanol and Ethanol.	07	
Q.2	(a) (b)	Enlist factors affecting biogas formation. Discuss advantages, disadvantages & important properties of biodiesel.	07 07	
		OR		
	(b)	Explain biodiesel production process.	07	
Q.3	(a)	Discuss advantages & disadvantages of CNG as an alternative fuel. Explain different components of CNG gas conversion kit in brief.	07	
	(b)	Explain storage, emission, cost and safety criteria for LPG and CNG.	07	
	()	OR	0=	
Q.3	(a) (b)	Discuss Eco friendly plastic fuels (EPF). Explain construction and working of Wankel engine with neat sketch.	07 07	
Q.4	` ′	Explain free piston engine with neat sketch. Discuss production and storage of hydrogen.	07 07	
	(b)	Discuss production and storage of hydrogen.	U/	
		OR		
Q.4	(a) (b)	Write a short note on fuel cell with neat sketch. Explain series type & parallel type hybrid electric vehicle with neat schematic diagrams.	07 07	
Q.5	(a) (b)	Write a short note on Solar vehicle with block diagram. Discuss Multi fuel/duel fuel engine.	07 07	
Q.5	(a)	OR Discuss Improvement in emission characteristics with respect to percentage (%)	07	
	(b)	blending of Alcohol. Explain advantages and limitation of electric vehicles.	07	
