Exam Seat No:_____ C.U.SHAH UNIVERSITY Winter Examination-2018

Subject Name : Alternate Fuels and Engines

	Subject Code : 4TE07AFE1			Branch: B.Tech (Automobile)		
	Semest	er :7	Date : 29/11/2018	Time : 10:30 To 01:30	Marks: 70	
	 Instructions: (1) Use of Programmable calculator & any other electronic instrument is prohi (2) Instructions written on main answer book are strictly to be obeyed. (3) Draw neat diagrams and figures (if necessary) at right places. (4) Assume suitable data if needed. 					
Q-1		Attem	pt the following questions:			(14)
	a)	What i	is the full form of DME?			
	b)	What i	is the range of octane number of	f CNG?		
	c)	Define	e calorific value.			
	d)	What l	by product generated when bio	diesel is produced?		
	e)	Define	e fire point of a fuel.			
	f)		cid, nickel cadmium, nickel irc ry, solar cell, car)	on are types of		
	g)	From BS - 6	-	of emission is implemented. (B	S - 3, BS - 4,	
	h)	B30 m	eans% of biodiesel blend i	n total fuel.(70,30,100)		
	i)	C2H50	OH is the chemical formula of_	(ethylene, methan	ol, ethanol)	
	j)	Write	the common feedstock for prod	luction of biodiesel.		
	k)	To me	asure flash point of fuel which	equipment is utilized?		
	l)	Sugarc ethano	_	rce for production of	(coal, petrol,	
	m)	Toyota	a Camry has a hybrid version.	Frue or false.		
	n)	Hybric	l car uses both engine and elect	tric motor. True or false.		
Atte	empt any	four que	estions from Q-2 to Q-8			

Q-2 Attempt all questions



	(a)	What is the need of alternative fuels? Discuss the barriers in implementing alternative fuels in India.	07
	(b)	Describe properties & production process of methanol.	07
Q-3		Attempt all questions	
	(a)	Discuss production and storage of hydrogen.	07
	(b)	Explain construction and working of Wankel engine with neat sketch	07
Q-4		Attempt all questions	
	(a)	Explain the production process of ethanol with reaction process.	07
	(b)	Explain Stirling engine with necessary sketches.	07
Q-5		Attempt all questions	
	(a)	Explain solar powered vehicle with suitable sketch.	07
	(b)	Explain biodiesel production process.	07
Q-6	Attempt all questions		
	(a)	With neat sketch discuss construction and working of electric vehicle.	07
	(b)	Discuss Multi fuel/duel fuel engine.	07
Q-7		Attempt all questions	
	(a)	Explain different components of CNG conversion kit with suitable sketches.	07
	(b)	Discuss Eco friendly plastic fuels(EPF)	07
Q-8		Attempt all questions	
	(a)	Explain series type & parallel type hybrid electric vehicle with neat schematic diagrams.	07
	(b)	Write a short note LPG as a fuel in vehicle.	07

