Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER–V • EXAMINATION – WINTER 2013

Subject Code: X 51904 **Date: 11-12-2013**

Subject Name: Internal Combustion Engines

Time: 10.30 AM - 01.00 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)**	Compare air standard cycle and fuel-air cycle.	**07**
	(b)	Discuss the important qualities of an SI and CI engine Fuel.	**07**
Q.2	**(a)**	What are the advantages and disadvantages of using LPG in SI engine	**07**
	(b)	Explain valve timing diagram of a four stroke SI engine.	**07**
		OR	
	(b)	Explain valve timing diagram of a four stroke CI engine.	**07**
Q.3	**(a)**	What are functions of nozzle? With sketches explain the various types of nozzles.	**07**
	(b)	Explain different types of fuel injection system used in CI engines.	**07**
		OR	
Q.3	**(a)**	With a neat diagram explain working of a simple carburetor.Discuss limitation of simple carburetor.	**07**
	(b)	With a neat diagram explain working of a Distributor type fuel injection pump.	**07**
Q.4	**(a)**	Explain MPFI Sytem with a diagram.	**07**
	(b)	With a neat sketch explain the magneto ignition sytem.	**07**
		OR	
Q.4	**(a)**	Compare Battery Ignition system and Magneto ignition system.	**07**
	(b)	Explain the phenomenon of knocking in SI Engines.	**07**
Q.5	**(a)**	Give brief account of air pollution caused due to Ic engines emissions.	**07**
	(b)	Explain various alternative fuels for IC engines.	**07**
		OR	
Q.5	**(a)**	Discuss methods of measurement of Brake power.	**07**
	(b)	Explain supercharging. Discuss various types of superchargers.	**07**

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