Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – SUMMER • 2014

Subject code: 711102N **Date: 17-06-2014**

Subject Name: Fundamentals of IC Engine and Automobile

Time: 02:30 pm - 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)**	Explain with neat sketch valve timing diagram of 4 stroke CI engine.	**07**
	(b)	Explain MPFI system with its working and advantages of it.	**07**
Q.2	**(a)**	Give application of micro processor and micro computer in automobile.	**07**
	(b)	Discuss selection of material for piston and write design steps to design piston head.	**07**
		OR	
	(b)	Discuss selection of material for connecting rod and write design procedure of it.	**07**
Q.3	**(a)**	Explain working of synchromesh gearbox with neat sketch.	**07**
	(b)	Explain working of stratified charge engine.	**07**
		OR	
Q.3	**(a)**	Explain cam less engine.	**07**
	(b)	Discuss recent development in I C engine.	**07**
Q.4	**(a)**	Explain with neat sketch working of valve mechanism for over head cam shaft (OHC) engine.	**07**
	(b)	List disadvantage of conventional (battery and magneto) ignition system. Sketch electronic ignition system.	**07**
		OR	
Q.4	**(a)**	State various troubles occurring in suspension system their probable causes and remedies.	**07**
	(b)	Explain with neat sketch the construction of an automobile tyre.	**07**
Q.5	**(a)**	Explain working of jerk pump fuel injection system.	**07**
	(b)	Types of carburetor. Explain with neat sketch any one of it.	**07**
		OR	
Q.5	**(a)**	Draw and describe typical layout of electric system of automobile.	**07**
	(b)	Explain mixture requirement in SI engine.	**07**

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