Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

ME Semester –I Examination Feb. - 2012

Subject code: 711102N **Date: 13/02/2012**
Subject Name: Fundamentals of I. C. Engine and Automobile
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)**	Explain with neat sketch the valve timing diagram for four stroke diesel engine.	**07**
	(b)	Explain difference between actual cycle and air fuel cycle.	**07**
Q.2	**(a)**	Compare two stroke and four stroke engine on basis of thermal and mechanical efficiency.	**07**
	(b)	Explain with neat sketch the construction of an automobile tyre.	**07**
		OR	
	(b)	Explain use of combustion charts for cycle analysis.	**07**
Q.3	**(a)**	Explain with neat sketch the compensating jet device used in carburetor.	**07**
	(b)	Explain why rich mixture is required for the following: (i) Idling (ii) Maximum Power	**07**
		OR	
Q.3	**(a)**	Explain working of sliding mesh gear box with neat sketch.	**07**
	(b)	Discuss in detail the effect of following on fuel air Otto cycle. (i) Burning time losses. (ii) Rubbing friction losses.	**07**
Q.4	**(a)**	Explain selection of material for piston and write design procedure to design piston head.	**07**
	(b)	Write short note on multipoint fuel injection system.	**07**
		OR	
Q.4	**(a)**	Explain working of fuel injector with neat sketch.	**07**
	(b)	Explain working of cam less engine.	**07**
Q.5	**(a)**	Enlist types of steering gears and explain any one of them with neat sketch.	**07**
	(b)	Explain working of telescopic type hydraulic shock absorber with neat sketch.	**07**
		OR	
Q.5	**(a)**	Explain layout of an electrical system of an automobile with neat sketch.	**07**
	(b)	Write short note on recent developments in I. C. Engine.	**07**

****