Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI(OLD) – EXAMINATION – SUMMER 2019

Subject Code:161902 Date:16/05/2019

Subject Name: Internal Combustion Engines

Time:10:30 AM TO 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)**	Define IC Engine. Give Comparison between external & internal combustion engine	**07**
	(b)	Explain Effect of variable specific heat on air standard cycles of diesel Cycle with P-V & T-S diagram.	**07**
Q.2	**(a)**	Derive the equation for air standard efficiency of a Otto cycle.	**07**
	(b)	Define following terms. 1. Compression Ratio. 2. Clearance volume 3. Calorific value. (C.V.)	**07**
		OR	
	(b)	Define adiabatic flame temperature & explain it with a neat sketch.	**07**
Q.3	**(a)**	Explain construction & working of Boy's gas Calorimeter with neat sketch.	**07**
	(b)	Write Requirements of a good carburetor. Explain working of a simple carburetor.	**07**
		OR	
Q.3	**(a)**	MPFI system for modern Automobile Engines- explains its types with a neat sketch.	**07**
	(b)	What are different types of fuel injection system? Explain CRDI system for diesel engine.	**07**
Q.4	**(a)**	Explain Types of ignition system & advantages & disadvantages of Battery Coil ignition system.	**07**
	(b)	Define supercharging. Explain any one method of supercharging of IC engine with neat sketch.	**07**
		OR	
Q.4	**(a)**	Define combustion. Explain combustion phenomena of SI engine with P-Θ diagram.	**07**
	(b)	Write short note on effect of Engine variable on flame propagation.	**07**
Q.5	**(a)**	Why governing system is required for IC engine? Explain Hit and Miss governing method for Gas Engine with neat sketch.	**07**
	(b)	What do you mean by turbocharging? Explain in detail the working of pulse turbocharging. (Buchi Type)	**07**
		OR	
Q.5	**(a)**	Explain the Rope brake dynamometer method for measurement of brake power (B.P.)	**07**
	(b)	Write down steps for performance test of IC Engine in laboratory.	**07**

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