Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER - VI (OLD).EXAMINATION - WINTER 2016

	U	ect Code: 161902 Date: 27/10/2016 ect Name: Internal Combustion Engines	
]	ime	: 02:30 AM to 05:00 PM ctions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.	
Q.1	(a)	Define Bore, Stroke, Compression ratio, Clearance ratio and mean effective pressure.	07
	(b)	Explain the stages of combustion in S.I. engine with the help of P θ diagram.	07
Q.2	(a)	Explain the following terms related to surface ignition (i) pre ignition (ii) Run on (iii) Run away (iv) wild ping (v) Rumble	07
	(b)	What is meant by abnormal combustion? Explain the phenomena of knock in S.I. engines.	07
	(b)	OR What is basic difference between an otto cycle & diesel cycle? Derive an expression for efficiency of diesel cycle.	07
Q.3	(a) (b)	What are the criteria for the selection of I.C Engine fuels? What are the advantages using alcohols as fuels in S.I. engines? OR	07 07
Q.3	(a) (b)	What is carburetion? What is the function of carburetor? Explain the construction and operation of a simple carburetor with the help of diagram.	07 07
Q.4	(a) (b)	Explain the types of nozzles used in C.I. engine. Differentiate between multipoint injection and direct injection. OR	07 07
Q.4	(a) (b)	Explain factors affecting on delay period on C.I engines. Explain battery ignition system with neat sketch.	07 07
Q.5	(a) (b)	Describe super charging of I.C. engines. What are its objectives? What are the major pollutants from the exhaust of gasoline & diesel engines? What are the detrimental effects of these pollutants? OR	07 07
Q.5	(a)	Explain stirling engine with neat sketch.	07
	(b)	Explain Emission (Euro and Bharat stage) norms	07
