

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (NEW) EXAMINATION – WINTER 2018

Subject Code:2140203

Date:12/12/2018

Subject Name:Automobile Engines

Time: 02:30 PM TO 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.

		MARKS
Q.1	(a) Explain in brief the function of the following components - Crank pin; Connecting rod; Piston ring.	03
	(b) Discuss the important properties of S I engine fuel.	04
	(c) Differentiate between S.I. and C.I. engines.	07
Q.2	(a) State the classification of Superchargers.	03
	(b) Differentiate between Air cooling system and Water cooling system.	04
	(c) Explain the working of Single jet carburetor with neat sketch.	07
	OR	
	(c) Write short note on Antifreeze solutions.	07
Q.3	(a) What do you understand by the terms – Research Octane number and Motor Octane number?	03
	(b) Explain Prony-Brake dynamometer in brief.	04
	(c) Explain the various factors affecting the Delay period in S.I. engine.	07
	OR	
Q.3	(a) What are the functions of a lubrication system?	03
	(b) Classify the combustion chambers for C.I. engine.	04
	(c) Explain the working of Supercharger.	07
Q.4	(a) Define the following I.C. engine performance parameters: Brake power; Volumetric efficiency; Brake specific fuel consumption.	03
	(b) Why supercharging is more preferred in C.I. engine than S.I. engine? Discuss it.	04
	(c) Explain with a neat sketch - Splash lubrication system.	07
	OR	
Q.4	(a) What is Physical delay and Chemical delay?	03
	(b) Explain with neat sketch the working of “M” combustion chamber.	04
	(c) Explain measurement of indicated power of multi cylinder engine by Morse test.	07
Q.5	(a) What are the purposes of supercharging the I.C. Engine?	03
	(b) Explain working of Fuel injector with neat sketch.	04
	(c) What is Abnormal combustion? Explain the Abnormal combustion in S.I. engine.	07
	OR	
Q.5	(a) Classify Fuel injection system in C.I. engine.	03
	(b) Describe the Forced cooling system with neat sketch.	04
	(c) Enlist different methods of Turbo-charging.Explain - Pulse turbo charging method.	07
