

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2023

Subject Code:3150210

Date:13-12-2023

Subject Name: Automobile 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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Discuss factors influencing firing order of SI engine.	03
	(b) Give difference between four stroke & two stroke engine.	04
	(c) Explain Valve timing diagram for S.I 4-stroke engine with neat sketch.	07
Q.2	(a) Enlist properties of C.I engine fuels & define any two.	03
	(b) Explain in brief working principle of venturi in context to carburetor.	04
	(c) Explain construction & working of Solex Carburetor with neat sketch.	07
	OR	
	(c) Write a short note on MPFI system.	07
Q.3	(a) Define scavenging. State different types of scavenging.	03
	(b) Explain the Pintaux nozzle with neat sketch and discuss its merits and demerits.	04
	(c) Describe CRDI system for diesel engine with neat sketch.	07
	OR	
Q.3	(a) State the different parameters to control the knock.	03
	(b) Explain the working of pneumatic governor.	04
	(c) Explain the stages of combustion with P-θ diagram in C.I. engines.	07
Q.4	(a) State the function of lubrication system.	03
	(b) Give the comparison between Air cooling system and Water-cooling system	04
	(c) State the types of turbocharging and explain any one with neat sketch.	07
	OR	
Q.4	(a) State the limitations of turbocharging.	03
	(b) Discuss the factors affecting flame propagation in S.I. Engine.	04
	(c) Explain with neat sketch water cooling system with thermostat valve.	07
Q.5	(a) What is valve overlapping? Give significance of it.	03
	(b) Explain concept of supercharging.	04
	(c) Differentiate between Mist and Pressure feed lubrication system.	07
	OR	
Q.5	(a) Define following (a) Indicated horse power (b) Brake horse power (c) Friction horse power	03
	(b) Discuss Heat balance sheet for four stroke C.I. engine.	04
	(c) Explain with neat sketch the construction and working of bosch fuel pump.	07
