

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2024

Subject Code:3152009

Date:23-05-2024

Subject Name:Automobile Engineering

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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Explain the types of automobile vehicle body.	03
	(b) Define the following terms: (i) castor (ii) toe in-toe out (iii) scrub radius (iv) camber.	04
	(c) Give compression of front wheel drive and rear wheel drive in front engine mounted chassis.	07
Q.2	(a) What are the different safety provisions made in a modern car?	03
	(b) Explain the function of a clutch.	04
	(c) Explain the single plate clutch with neat sketch.	07
	OR	
	(c) Describe the working of synchromesh gear box.	07
Q.3	(a) What are the advantages of an automatic transmission?	03
	(b) Explain the function of propeller shaft in power transmission?	04
	(c) Describe the common features and major differences in a constant mesh and synchromesh gear box.	07
	OR	
Q.3	(a) Explain the live and dead front axle.	03
	(b) Explain hybrid vehicle and concept car.	04
	(c) With neat sketch explain construction and working of shock absorber.	07
Q.4	(a) What is the principle of Braking?	03
	(b) Give detailed classification of automobile brakes.	04
	(c) Explain Air brakes with diagram.	07
	OR	
Q.4	(a) Explain the purpose of suspension system.	03
	(b) Explain leaf spring with neat sketch.	04
	(c) Describe Ackermann steering in detail with neat sketch.	07
Q.5	(a) Explain the different types of Automotive batteries.	03
	(b) Explain difference between Battery ignition system and Magneto ignition system.	04
	(c) Explain ABS with neat sketch.	07
	OR	
Q.5	(a) Give Comparison of IC Engine and EC Engine.	03
	(b) Explain battery Maintenance.	04
	(c) Describe exhaust gas recirculation system.	07
