

Seat No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– V (New) EXAMINATION – WINTER 2019****Subject Code: 2150202****Date: 04/12/2019****Subject Name: Automobile Systems****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.

		MARKS
Q.1	(a) Classify automobiles.	03
	(b) Draw layout of front engine four wheel drive and front engine front wheel drive.	04
	(c) Explain torque converter with neat sketch.	07
Q.2	(a) Enlist the major units that make up an automobile chassis.	03
	(b) Explain Bleeding of Brake with neat sketch.	04
	(c) Explain leaf spring with a neat figure.	07
	OR	
	(c) Explain electromagnetic clutch.	07
Q.3	(a) List different types of lining materials used in brakes.	03
	(b) Give the difference between automatic and manual transmission.	04
	(c) Describe with a neat sketch the automobile chassis.	07
	OR	
Q.3	(a) Define: Wheel base, Wheel track, Ground Clearance.	03
	(b) Explain the types of belts in brief.	04
	(c) What is an independent suspension? Explain the MacPherson strut type of independent suspension in detail.	07
Q.4	(a) Briefly discuss about specification of tyres with example.	03
	(b) Write a short note on Power steering.	04
	(c) Describe with a neat sketch the working of master cylinder of hydraulic brake.	07
	OR	
Q.4	(a) Discuss the function of universal joints in power transmission.	03
	(b) Explain semi floating rear axles with the aid of suitable sketch.	04
	(c) Explain and derive condition for correct steering.	07
Q.5	(a) Describe in brief Caster.	03
	(b) Explain various resistances acting on a vehicle in motion.	04
	(c) Explain epicyclic gear box in brief.	07
	OR	
Q.5	(a) Explain radial ply tyre.	03
	(b) Compare drum brake and disc brake.	04
	(c) What is the importance of differential in vehicle? Explain its working and construction with diagram.	07
