

Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VI EXAMINATION – SUMMER 2026

Subject Code:3160209

Date:08-06-2026

Subject Name:Automotive Electricals and Electronics

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) Explain color codes and its main objectives.	03
(b) Enlist the Various types of Automotive batteries.	04
(c) Draw the Layout and Wiring diagram for 4 Wheeler Vehicles.	07
Q.2 (a) Explore different definitions of Starting motor torque term.	03
(b) Explain the Battery failures in details.	04
(c) Enlist different types of drive mechanisms for starting system and elaborate one drive mechanisms.	07
OR	
(c) Explain construction and working of overrunning of clutches.	07
Q.3 (a) Explain Instrument cluster panel for latest car model.	03
(b) Why Need of Charging circuit? Explain its Types of charging system.	04
(c) Explain compensated voltage and current regulator with diagrams.	07
OR	
Q.3 (a) Enlist types of sensors use in controlling vehicle Performance.	03
(b) Explain the types of lamp used for vehicle lighting system.	04
(c) Write short notes on Warning lights and flashers.	07
Q.4 (a) Differentiate Throttle body injection and multi-port or point fuel injection.	03
(b) Explain Types of solid state ignition systems.	04
(c) Explain Construction and working of Throttle position sensors.	07
OR	
Q.4 (a) Explain Feedback carburetor systems (FBC) in details.	03
(b) What is Telematics and Security warning system infotainment?	04
(c) What is stepper motors and where it can used?	07
Q.5 (a) Give a brief detail on regulator characteristics.	03
(b) Write a short note on oil level indicator and parking brake indicator.	04
(c) Explain construction and working of speedometer.	07
OR	
Q.5 (a) Explain Cold Starting devices in engine system.	03
(b) Write a short note on Safety indicator lights and fog lamp.	04
(c) Explain construction and working of wind screen Wiper System.	07
