

Enrolment No./Seat No\_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code:3160209

Date:15-05-2024

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
<b>Q.1</b> (a) Explain the color codes used in wiring of vehicle electrical system.	<b>03</b>
(b) Draw and explain the working of cut out relay used in vehicle.	<b>04</b>
(c) Explain the construction and working of lead acid battery in detail.	<b>07</b>
<b>Q.2</b> (a) Explain the battery gravimetric test.	<b>03</b>
(b) Explain the working of over running clutch.	<b>04</b>
(c) Draw and explain the construction and working of vehicle wiper system.	<b>07</b>
<b>OR</b>	
(c) Explain battery capacity rating methods in details.	<b>07</b>
<b>Q.3</b> (a) Explain requirements of good starting system.	<b>03</b>
(b) Explain four battery failures with their probable causes.	<b>04</b>
(c) Explain the construction and working of bendix drive used for starter motor.	<b>07</b>
<b>OR</b>	
<b>Q.3</b> (a) Explain the various cable connector used in vehicles.	<b>03</b>
(b) Explain the flywheel magneto charging system in short.	<b>04</b>
(c) Explain the construction and working of axial sliding armature type starting device.	<b>07</b>
<b>Q.4</b> (a) Enlist the requirements of good injection system.	<b>03</b>
(b) Explain the wiring diagram of indicator lamp in four wheeler.	<b>04</b>
(c) Explain the construction and working of head lamp with neat sketch.	<b>07</b>
<b>OR</b>	
<b>Q.4</b> (a) Explain the effect of reflector design in vehicle headlight in short.	<b>03</b>
(b) Explain engine management system in brief.	<b>04</b>
(c) Explain the throttle body injection and MPFI system in detail.	<b>07</b>
<b>Q.5</b> (a) Enlist the Six dashboard indicator with their function.	<b>03</b>
(b) Give the advantage and disadvantage of feedback carburetor system(FBC).	<b>04</b>
(c) Explain the construction and working of oxygen sensor.	<b>07</b>
<b>OR</b>	
<b>Q.5</b> (a) Explain the function of glow plug in brief.	<b>03</b>
(b) Explain the working principle of air horn.	<b>04</b>
(c) Explain the working of oil level indicator with neat sketch.	<b>07</b>

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