

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3160212****Date:20-07-2023****Subject Name:Two and Three Vehicle Technology****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 scavenging used in Two wheeler.	<b>03</b>
(b) Explain the battery starting system used in two wheelers.	<b>04</b>
(c) Differentiate between sports bike, cruiser bike and street bike.	<b>07</b>
 <b>Q.2</b> (a) Differentiate between tube tyre and tubeless tyre.	 <b>03</b>
(b) Explain Gear shift mechanism for two wheeler.	<b>04</b>
(c) With help of neat sketch discuss the working of kick mechanism for two wheeler.	<b>07</b>
<b>OR</b>	
(c) Explain the multi plate clutch used in two wheeler with neat sketch in detail.	<b>07</b>
 <b>Q.3</b> (a) Define air resistance and gradient resistance	 <b>03</b>
(b) Write a short note on CVT-Continuously Variable Transmission of Two-wheeler.	<b>04</b>
(c) Explain Various Safety measures & arrangements for Two & Three wheeler.	<b>07</b>
<b>OR</b>	
<b>Q.3</b> (a) Compare chain drive and gear drive for two wheeler.	<b>03</b>
(b) Which modification is required to use CNG in three wheeler?	<b>04</b>
(c) Explain preventive maintenance in two and three wheelers.	<b>07</b>
 <b>Q.4</b> (a) Define (1) Belt drive (2) Chain drive (3) Shaft drive.	 <b>03</b>
(b) Explain spoke wheel and split disk wheel.	<b>04</b>
(c) Explain ergonomic considerations for body work of two and three wheelers.	<b>07</b>
<b>OR</b>	
<b>Q.4</b> (a) Compare disc brakes with drum brakes.	<b>03</b>
(b) State the design consideration for frame.	<b>04</b>
(c) Explain shock absorber construction and working principle. With neat sketch.	<b>07</b>

- Q.5** (a) Draw the layout of passenger rickshaw. **03**  
(b) What is the purpose of helmet and explain any one type of helmet. **04**  
(c) Explain Construction and working of a carburetor with diagram. **07**

**OR**

- Q.5** (a) Explain the magneto ignition system for two wheeler in short. **03**  
(b) Draw the valve timing diagram for 4 stroke petrol engine and port diagram for 2 stroke petrol engine. **04**  
(c) Explain construction of handle bar used in motorcycles. Also list down some of the standard size parameters. **07**

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