

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI EXAMINATION – SUMMER 2025

Subject Code: 3160212

Date:30-05-2025

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) Define following terms. 1. Carburation 2. Scavenging 3. Valve over lapping	<b>03</b>
(b) Draw port timing diagram of 2 stroke petrol engine and label it.	<b>04</b>
(c) Why cranking mechanism is used automobile? Explain different cranking mechanism employed in three wheeler.	<b>07</b>
<b>Q.2</b> (a) Justify the need of venturi in carburetor.	<b>03</b>
(b) State the criteria considered to select engine for two wheeler.	<b>04</b>
(c) Compare mist and splash lubrication system	<b>07</b>
<b>OR</b>	
(c) List out scavenging methods. Elaborate uniflow scavenging system.	<b>07</b>
<b>Q.3</b> (a) Define following terms. 1. Rake angle 2. Trail distance 3. Offset distance	<b>03</b>
(b) Justify the need of multi-plate clutch in motor cycle.	<b>04</b>
(c) Draw the layout of three wheeler transmission system and label it.	<b>07</b>
<b>OR</b>	
<b>Q.3</b> (a) Define following terms. 1. Shock absorber 2. Spring 3. Steering fork	<b>03</b>
(b) Compare spoke wheel and split disk wheel.	<b>04</b>
(c) Explain mono suspension used in two wheeler with sketch.	<b>07</b>
<b>Q.4</b> (a) State the function of suspension system.	<b>03</b>
(b) State the design consideration for frame.	<b>04</b>
(c) Elaborate difference between drum and disk brake.	<b>07</b>
<b>OR</b>	
<b>Q.4</b> (a) State the material used for frame.	<b>03</b>
(b) State main components of battery with their function.	<b>04</b>
(c) Elaborate working of 2 stroke engine with sketch.	<b>07</b>

- Q.5** (a) State the function of following system. **03**  
1. Horn  
2. Charging system  
3. Lighting system
- (b) Explain ergonomic consideration for two wheeler design. **04**
- (c) Elaborate difference between battery and magneto ignition system. **07**
- OR**
- Q.5** (a) Define **03**  
1. Belt drive  
2. Chain drive  
3. Shaft drive
- (b) Classify three wheeler and two wheeler. **04**
- (c) Explain front telescopic suspension system with sketch. **07**

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