

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VI EXAMINATION – WINTER 2025

Subject Code:3160212

Date:25-11-2025

Subject Name:Two and Three Vehicle Technology

Time:02:30 PM TO 05:00 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.

- Q.1\* (a) Explain gear shifting mechanism in bike. 03  
(b) Draw the layout of two wheelers 04  
(c) Write a short note on CVT-Continuously Variable Transmission of Two-wheeler. 07

- Q.2 (a) Discuss about the white smoke and black smoke exhaust. 03  
(b) Explain the types of lubricants. 04  
(c) Write a short note on different types of cooling system in two-wheeler. 07

OR

- (c) Explain the multiplate clutch with help of neat sketch. 07  
Q.3 (a) Write the constructional and functional difference between two stroke and four stroke SI engine? 03  
(b) Explain the Clutch release mechanism. 04  
(c) Explain the types of tires and types of wheels. 07

OR

- Q.3 (a) Discuss the spoke wheel and alloy wheel. 03  
(b) Difference between the chain drive, belt drive and shaft drive. 04  
(c) With help of neat sketch of Four stroke SI engine. 07  
Q.4 (a) Write down on design considerations for frame. 03  
(b) Discuss the modification required for CNG conversion 04  
(c) Explain the types of suspension system with the help of neat sketch for two wheeler vehicles. 07

OR

- Q.4 (a) Briefly short note on battery using in two wheeler vehicles. 03  
(b) Discuss about the Different types of cranking mechanism for two wheeler vehicles. 04  
(c) Explain the types of break system with the neat sketch. 07  
Q.5 (a) Draw the layout of passenger rickshaw. 03  
(b) Explain the anti lock breaking system (ABS) for two wheeler vehicle. 04  
(c) Explain the Different types of fuel supply systems. 07

OR

- Q.5 (a) Define scavenging and explain it for two wheeler. 03  
(b) Explain the Ignition system and Lighting system for two wheeler. 04  
(c) Explain the types of frame for two wheeler with neat sketch. 07

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**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2024****Subject Code:3160212****Date:06-12-2024****Subject Name: Two and Three Vehicle Technology****Time:02:30 PM TO 05:00 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) Classify Engines used in two and three wheelers	<b>03</b>
	(b) Draw a layout of a two wheeler	<b>04</b>
	(c) Explain Construction and working of four stroke petrol engine with a neat diagram.	<b>07</b>
<b>Q.2</b>	(a) Write a note on Two wheeler Battery.	<b>03</b>
	(b) Differentiate tubeless and tube type tires used in two wheelers	<b>04</b>
	(c) Explain the construction and working of Drum brakes with a diagram.	<b>07</b>
	<b>OR</b>	
	(c) Explain different types of engine cranking mechanism used in two and three wheelers in detail	<b>07</b>
<b>Q.3</b>	(a) What do you understand by scavenging? List out advantages of scavenging.	<b>03</b>
	(b) Write note of ignition system of three wheelers.	<b>04</b>
	(c) Explain different type of carburetor used in two wheelers in detail.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Differentiate chain drive and belt drive	<b>03</b>
	(b) Write a note on fuel injection system.	<b>04</b>
	(c) Explain construction and working of Continuously variable transmission (CVT) with a neat diagram.	<b>07</b>
<b>Q.4</b>	(a) Define steering terms. (1) Rake angle (2) Trail (3) Distance Offset.	<b>03</b>
	(b) Write a note on ABS (Antilock Braking System).	<b>04</b>
	(c) Explain Construction and Working of Multi plate Clutch used in three wheelers.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) List out different gear shifting mechanism used in two and three wheelers	<b>03</b>
	(b) Draw a port timing diagram of a two wheeler and explain in brief.	<b>04</b>
	(c) Explain handlebar control , instruments and indicators used in two wheelers in detail	<b>07</b>
<b>Q.5</b>	(a) List out different types of frames used in two wheelers.	<b>03</b>
	(b) Write a note of design consideration for two wheeler suspension system.	<b>04</b>
	(c) Explain construction and working of spring and shock absorber with a neat diagram.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) List out and compare different cooling system used in two and three wheelers.	<b>03</b>
	(b) Write a note on ergonomics considerations for two and three wheelers.	<b>04</b>
	(c) Explain in Mist and Splash lubrication system with a diagram.	<b>07</b>

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**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI(NEW) EXAMINATION – WINTER 2022****Subject Code:3160212****Date:20-12-2022****Subject Name:Two and Three Vehicle Technology****Time:02:30 PM TO 05:00 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**

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|------------|--|-----------|
| <b>Q.1</b> | (a) Define scavenging and explain it for two wheeler.                              | <b>03</b> |
|            | (b) Discuss the any one lubrication system used for 4-stroke engine.               | <b>04</b> |
|            | (c) Explain the multi plate clutch used in two wheeler with neat sketch in detail. | <b>07</b> |
| <b>Q.2</b> | (a) Compare chain drive and gear drive for two wheeler                             | <b>03</b> |
|            | (b) Enlist the causes and remedies: engine consumes more fuel.                     | <b>04</b> |
|            | (c) Explain the drum brake with neat sketch.                                       | <b>07</b> |
|            | <b>OR</b>  |           |
|            | (c) Explain the disc brake used in bikes with neat sketch.                         | <b>07</b> |
| <b>Q.3</b> | (a) Explain battery used in two wheeler in short                                   | <b>03</b> |
|            | (b) Explain the port timing diagram for two stroke engine                          | <b>04</b> |
|            | (c) Explain the working principle of differential mechanism used in three wheeler. | <b>07</b> |
|            | <b>OR</b>  |           |
| <b>Q.3</b> | (a) Explain the magneto ignition system for two wheeler in short.                  | <b>03</b> |
|            | (b) Explain the double declutching in constant mesh gear box.                      | <b>04</b> |
|            | (c) Enlist the various horn mechanism and explain electric horn with neat sketch   | <b>07</b> |
| <b>Q.4</b> | (a) Discuss the spoke wheel and alloy wheel.                                       | <b>03</b> |
|            | (b) Differentiate between tube tyre and tubeless tyre.                             | <b>04</b> |
|            | (c) Explain starting mechanism for two wheeler vehicles.                           | <b>07</b> |
|            | <b>OR</b>  |           |
| <b>Q.4</b> | (a) Explain side light indicator in two wheeler in brief.                          | <b>03</b> |
|            | (b) Discuss the continuous Variable transmission used in two wheeler.              | <b>04</b> |
|            | (c) Explain the importance of helmet and explain various type of helmet.           | <b>07</b> |
| <b>Q.5</b> | (a) Give the advantages of multiplate clutch over single plate clutch.             | <b>03</b> |
|            | (b) Explain the design requirements of racing bikes                                | <b>04</b> |
|            | (c) Explain the working principle of shock absorber with neat sketches.            | <b>07</b> |
|            | <b>OR</b>  |           |
| <b>Q.5</b> | (a) Classify various types of three wheelers.                                      | <b>03</b> |
|            | (b) Discuss the modification required for CNG conversion                           | <b>04</b> |
|            | (c) Explain preventive maintenance in two and three wheelers.                      | <b>07</b> |

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