

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.

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|-------------|--|-----------|
| 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

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| Q.3 | (c) Explain the multiplate clutch with help of neat sketch. | 07 |
| | 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

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| 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

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|------------|---|-----------|
| 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

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| 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 |

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 |
|------------|---|--------------|
| Q.1 | (a) Classify Engines used in two and three wheelers | 03 |
| | (b) Draw a layout of a two wheeler | 04 |
| | (c) Explain Construction and working of four stroke petrol engine with a neat diagram. | 07 |
| Q.2 | OR | |
| | (a) Write a note on Two wheeler Battery. | 03 |
| | (b) Differentiate tubeless and tube type tires used in two wheelers | 04 |
| | (c) Explain the construction and working of Drum brakes with a diagram. | 07 |
| Q.3 | OR | |
| | (a) Explain different types of engine cranking mechanism used in two and three wheelers in detail | 07 |
| | (a) What do you understand by scavenging? List out advantages of scavenging. | 03 |
| | (b) Write note of ignition system of three wheelers. | 04 |
| | (c) Explain different type of carburetor used in two wheelers in detail. | 07 |
| Q.3 | OR | |
| | (a) Differentiate chain drive and belt drive | 03 |
| | (b) Write a note on fuel injection system. | 04 |
| | (c) Explain construction and working of Continuously variable transmission (CVT) with a neat diagram. | 07 |
| Q.4 | OR | |
| | (a) Define steering terms. (1) Rake angle (2) Trail (3) Distance Offset. | 03 |
| | (b) Write a note on ABS (Antilock Braking System). | 04 |
| | (c) Explain Construction and Working of Multi plate Clutch used in three wheelers. | 07 |
| Q.4 | OR | |
| | (a) List out different gear shifting mechanism used in two and three wheelers | 03 |
| | (b) Draw a port timing diagram of a two wheeler and explain in brief. | 04 |
| | (c) Explain handlebar control , instruments and indicators used in two wheelers in detail | 07 |
| Q.5 | OR | |
| | (a) List out different types of frames used in two wheelers. | 03 |
| | (b) Write a note of design consideration for two wheeler suspension system. | 04 |
| | (c) Explain construction and working of spring and shock absorber with a neat diagram. | 07 |
| Q.5 | OR | |
| | (a) List out and compare different cooling system used in two and three wheelers. | 03 |
| | (b) Write a note on ergonomics considerations for two and three wheelers. | 04 |
| | (c) Explain in Mist and Splash lubrication system with a diagram. | 07 |

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

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