

# CBCS SCHEME

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18AU743

## Seventh Semester B.E. Degree Examination, Dec.2023/Jan.2024 Two and Three Wheeled Vehicles

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Why scooters are not preferred for long journeys? Also explain layout of scooter with sketch. (10 Marks)  
b. Briefly explain basic systems used for build a two wheeler. (10 Marks)

OR

- 2 a. Explain various factors which affect road-holding characteristics. (08 Marks)  
b. Explain factors affecting vehicle stability. (06 Marks)  
c. Explain the various performance measurements carried out for two wheelers? Explain. (06 Marks)

### Module-2

- 3 a. State the limitations of a simple carburetor. Also explain various circuits used in modern carburetors. (10 Marks)  
b. Why dry sump lubrication system is preferred in high performance two wheelers? Explain working of dry sump lubrication system with sketch. (10 Marks)

OR

- 4 a. With neat diagram, explain oil cooling system. (06 Marks)  
b. Explain battery ignition system with neat sketch. (08 Marks)  
c. Explain construction and working of spark plug with neat sketch. (06 Marks)

### Module-3

- 5 a. Explain chain-sprocket mechanism as a primary driver. (06 Marks)  
b. Explain construction and working of a multiplate clutch with diagram. (08 Marks)  
c. Describe cam-type clutch release mechanism used for multi-plate clutch. (06 Marks)

OR

- 6 a. Explain mesh gear-box with ball lock type mechanism. (08 Marks)  
b. Explain with neat sketch foot operated gear shifting mechanism. (06 Marks)  
c. Explain construction and working of shaft drive. (06 Marks)

### Module-4

- 7 a. With neat sketch, explain various components of a conventional frame. (08 Marks)  
b. Sketch and explain the construction and working of shock absorber. (06 Marks)  
c. Explain with sketch, the front fork and suspension system of 2-wheeler. (06 Marks)

OR

- 8 a. Explain disc wheel and light alloy cast wheel, with neat diagram. (06 Marks)  
b. Explain drum brake system with neat sketch. (06 Marks)  
c. Explain various types of tyre with diagram. (08 Marks)

**Module-5**

- 9    a. Explain the general layout of passenger auto-rickshaw. (08 Marks)  
      b. Explain the drive train layout for loading auto-rickshaw. (06 Marks)  
      c. Explain swing arm suspension used in auto-rickshaw. (06 Marks)

**OR**

- 10   a. List and explain the types of maintenance. Also explain importance of maintenance. (10 Marks)  
      b. Describe the decarburizing procedure for engine and silencer. (10 Marks)

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VTU EXAMS DEC/JAN 2024