



2018 VI 08

1430

Seat No. :

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Time : 2 Hours

AUTO TRANSMISSION

Subject Code

V	3	2	3
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Total No. of Questions : 5

(Printed Pages : 2)

Maximum Marks : 50

- INSTRUCTIONS :** I) *All questions are **compulsory**.*
II) *Answer **each** question on a **fresh** page.*
III) *Write the number of the questions and sub-questions **clearly**.*
IV) *Figures to the **right** indicate **full** marks.*

1. A) Answer the following questions in **one** sentence each :
- I) Name the material used in the manufacture of the pressure plate of a single plate clutch. [1]
 - II) State the component provided between the star pinion and the cage of a differential unit to avoid wear and tear. [1]
 - III) State any two advantages of using Tubeless Tyres. [1]
 - IV) State any two disadvantages of using coil springs in the suspension system. [1]
 - V) Name the type of stub axle used more popularly in commercial vehicles. [1]
 - VI) Why understeer is safer than over steer ? [1]
- B) i) Draw a neat labelled sketch of 'semi-centrifugal clutch'. [2]
ii) What are the materials used in the manufacture of clutch facing other than asbestos ? Why asbestos is preferred as a clutch facing ? [2]
2. A) Answer the following questions :
- i) Why more number of clutch plates are used in multiplate wet type clutch ? [2]
 - ii) What is "Air or wind resistance" ? [2]
 - iii) Explain the working of constant mesh gear box. [2]



- B) i) Draw a neat labelled sketch of torque tube drive. [2]
ii) Explain in short the cross and yoke type universal joint. [2]
3. A) Answer the following questions :
- i) Why is overdrive provided in an Automobile ? [2]
 - ii) State any four requirements of a road wheel ? [2]
 - iii) Write a short note on “Telescopic shock absorber”. [2]
- B) i) Draw a neat labelled sketch of semi-floating axle. [2]
ii) Explain the constructional features of a differential unit. [2]
4. A) Answer the following questions :
- i) Mention the characteristics of suspension system (Any four). [2]
 - ii) Explain the constructional details of worm and roller steering gear box. [2]
 - iii) State any four requirements of steering system. [2]
- B) i) Draw a neat labelled sketch of conventional chassis frame. [2]
ii) Give any four points of difference between the chassis and the frame. [2]
5. A) Answer the following questions :
- i) State the functions of the following components :
 - a) Tie rod. [1]
 - b) Steering gear box. [1]
 - ii) Describe the Tandem master cylinder of Hydraulic brake system. [2]
 - iii) Compare independent suspension system with conventional suspension system. [2]
- B) i) Draw a layout of Hydraulic Brake System. [2]
ii) Why unloader valve is provided in “Air Braking System” ? [2]
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