

22309

22232

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.

Marks

1. **Attempt any FIVE of the following :** **10**
 - (a) List different measuring tool.
 - (b) Define automobile & vehicle layout.
 - (c) State necessity of gear box.
 - (d) State two functions of Automotive clutch.
 - (e) Write functions of universal joint.
 - (f) State the loads acting on rear Axle.
 - (g) List the different clutch lining material.

2. **Attempt any THREE of the following :** **12**
 - (a) Classify vehicle layout with respect to (1) Location of engine (2) No. of live Axle (3) Arrangement of engine (4) Application
 - (b) Compare wet clutch & dry clutch.
 - (c) Describe advantages of Synchromesh gear box over Constant mesh gear box.
 - (d) Describe with neat sketch working of torque tube drive.



- 3. Attempt any THREE of the following : 12**
- (a) Draw a neat sketch of different frame sections.
 - (b) Illustrate with the sketch functional relationship of major components of power transmission system.
 - (c) Describe working of single plate clutch.
 - (d) Describe with neat sketch working of torque converter.
- 4. Attempt any THREE of the following : 12**
- (a) Describe with sketch working of hydraulic clutch operating mechanism.
 - (b) Describe with sketch construction detail of clutch plate.
 - (c) Compare single plate dry clutch with multiplate dry clutch on the basis of
(i) Construction (ii) Torque transmission (iii) Size (iv) Applications
 - (d) Explain with neat sketch working of transfer case.
 - (e) Draw a neat sketch of power flow diagrams for four forward and one reverse gears in engaged position.
- 5. Attempt any TWO of the following : 12**
- (a) Describe with neat sketch working of gear selector mechanism mounted on the top of gear box.
 - (b) Compare simple hook's type universal joint with constant velocity joint and justify their use in relevant transmission system.
 - (c) Sketch the arrangements of following types of rear axles and give one application of each (i) Semi Floating (ii) Full Floating
- 6. Attempt any TWO of the following : 12**
- (a) Describe with sketch working of final drive and differential mechanism.
 - (b) Explain with neat sketch working of tubed tyre and tubeless tyre.
 - (c) Describe different tyre inflation and their effects of incorrect tyre inflation.
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