

12052

21112

3 Hours / 100 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.

(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

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| 1. Attempt any FIVE. | 20 |
| (a) Explain Hotchkiss drive with sketch. | |
| (b) Write necessity and function of final drive. | |
| (c) Explain chain drive transmission in two wheeler. | |
| (d) Write advantages & disadvantages of Spoked Wheels. | |
| (e) Explain Tyre terminology with sketch. | |
| (f) Explain Three quarter floating axle with sketch. | |
| (g) Write necessity and function of propeller shaft. | |
| (h) Explain various loads acting on Chassis frame. | |
| 2. Attempt any TWO. | 16 |
| (a) Draw a layout of Rear engine Rear wheel drive & write its advantages & disadvantages. | |
| (b) Explain Box section type frame construction of vehicle. Discuss various materials used for frame construction. | |
| (c) Draw a neat sketch of torque converter & explain its working. | |

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- 3. Attempt any TWO. 16**
- (a) Write requirements of clutch. Explain diaphragm clutch with sketch.
 - (b) Explain wet clutch with sketch. Write its advantages over dry clutch.
 - (c) Explain mechanical and hydraulic clutch linkages with sketch.
- 4. Attempt any TWO. 16**
- (a) Discuss functions and necessity of transmission (gear box) – Explain tractive effort curves for different gears.
 - (b) Explain working of Differential with neat sketch.
 - (c) Explain in brief –
 - (i) Gear shift mechanism
 - (ii) Concept of automatic gear box
- 5. Attempt any TWO. 16**
- (a) Explain working of synchromesh gear box with neat sketch.
 - (b)
 - (i) Explain tubeless tyre & its features.
 - (ii) Explain tyre inflation and its effect.
 - (c) Explain Universal joint and slip joint with sketches.
- 6. Explain in brief (any FOUR). 16**
- (a) Backlash in differential
 - (b) Tyre materials
 - (c) Constant velocity joints
 - (d) Fluid coupling
 - (e) Materials used for clutch lining
 - (f) Centrifugal clutch
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