

22309

23242

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

Marks

1. Attempt any FIVE :

10

- (a) List any four tools to check Automotive Transmission system component.
- (b) Define Chassis.
- (c) List any four types of clutch lining materials.
- (d) Classify the types of gear box.
- (e) List the function of slip joint.
- (f) List the function of Differential.
- (g) List the function of tyre.

2. Attempt any THREE :

12

- (a) Sketch a layout of Front Engine Front Wheel drive vehicle and label the component.
- (b) Describe construction details of clutch plate with neat sketch.
- (c) Describe with sketch working of Variator Drive.
- (d) Compare Torque tube drive and Hotchkiss Drive.



- 3. Attempt any THREE :** **12**
- (a) What are the loads acting on frame in a vehicle ?
 - (b) Describe the construction of Integral frame of vehicle with neat sketch.
 - (c) Describe working of centrifugal clutch with neat sketch.
 - (d) Describe working of sliding mesh gear box with neat sketch.
- 4. Attempt any THREE :** **12**
- (a) Describe with sketch working of Single plate diaphragm type clutch.
 - (b) Compare single plate with multiplate clutch. (any four point)
 - (c) Describe construction of hydraulic clutch operating mechanism with neat sketch.
 - (d) Synchromesh gear box mostly used in a vehicle. Justify.
 - (e) Sketch constant mesh gear box with power flow diagram in Top gear and label the component.
- 5. Attempt any TWO :** **12**
- (a) Describe with sketch working of transfer case in a vehicle.
 - (b) Describe construction of Inboard Tripod Joint and out board Rezappa with neat sketch.
 - (c) Full floating axle mostly used in Heavy vehicle. Justify.
- 6. Attempt any TWO :** **12**
- (a) Describe with sketch construction and working of semi-floating axle.
 - (b) Describe the types of tyre inflation and effect of incorrect tyre inflation.
 - (c) Explain construction of tubeless tyre with neat sketch.
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