

17526

21819

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

Marks

1. (A) Attempt any THREE of the following :

12

- (a) Draw four wheeler chassis layout and show major components on it.
- (b) State the requirements of transmission system. List the components of it and write function of each component in one line.
- (c) Explain the Ackermann steering mechanism with line sketch.
- (d) List the factors affecting tyre life.

(B) Attempt any ONE of the following :

6

- (a) List any six type of automobile power plants and explain any one with sketch.
- (b) Explain the working of transfer case with sketch and give its application.

2. Attempt any FOUR of the following : 16

- (a) State the importance of Aerodynamic body shapes in car and write any four advantages of it.
- (b) Compare front engine rear wheel drive with front engine front wheel drive.
- (c) Explain the construction and working of diaphragm type of clutch.
- (d) Explain the construction and working of synchromesh gear box.
- (e) Differentiate between disc brake and drum brake.

3. Attempt any TWO of the following : 16

- (a) Give detail classification of automobile with one example of each.
- (b) Explain the construction and working of differential with simple line sketch.
- (c) Explain wheel geometry :
 - (i) Castor
 - (ii) Camber
 - (iii) Toe-In
Toe-Out
 - (iv) King pin inclination.

4. (A) Attempt any THREE of the following : 12

- (a) Explain with neat sketch the working of semifloating rear axle.
- (b) Explain the construction and working of Rack and pinion type of steering gear box.
- (c) Sketch telescopic shock absorber and label main parts.
- (d) Explain Rating of Battery recommended by SAE.

- (B) Attempt any ONE of the following :** **6**
- (a) Explain construction and working of master cylinder.
 - (b) Compare Radial tyre with cross ply tyre.
- 5. Attempt any FOUR of the following :** **16**
- (a) Write any four advantages of tubeless tyre over tube tyre.
 - (b) Explain with sketch Trailing link suspension.
 - (c) State the working principle of alternator and write the difference between alternator and dynamo.
 - (d) Write different wire colour codes used in automobile wiring system.
 - (e) State any four precautions to be taken while using air conditioning system of a vehicle.
- 6. Attempt any TWO of the following :** **16**
- (a)
 - (i) Explain the procedure for wheel balancing of car.
 - (ii) Draw a layout of an air-conditioning system of a car and explain its working.
 - (b) Explain the construction and working of Bendix drive.
 - (c) Explain the electronic ignition system with sketch.
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