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ELECTIVE - I

**Automobile Engineering
(New) (1255)**

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Solve **any two** sub questions from each unit.
5. Draw neat sketches wherever necessary.
6. Use of non-programmable electronic calculator is allowed.

UNIT - I

1. a) Explain with neat sketches different types of chassis with respect to engine fitting. 10
b) Write short notes. 10
i) Sub-frames
ii) Vehicle dimensions.
c) Give the construction of brake linings. How are they fixed to the brake shoes. 10

UNIT - II

2. a) Explain briefly the various causes of clutch troubles How can those be remedied. 10
b) What are the different types of gear boxes ? With the help of neat diagram explain the construction and working of epicyclic gear box. 10
c) Write short notes. 10
i) Torque tube type propeller shaft.
ii) Conventional differential.

UNIT - III

3. a) Describe briefly the following three basic suspension movements of a car with neat sketches. 10
i) Bouncing ii) Rolling iii) Pitching.

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- b) Write short notes : 10
 i) Macpherson strut type suspension.
 ii) Understeering & Oversteering.
- c) Explain the necessity of power steering in an automobile & also briefly describe the layout of an integral power steering system. 10

UNIT - IV

4. a) Explain in brief : 10
 i) Light alloy casting wheels.
 ii) Wire wheel.
- b) Describe tyre construction in brief. List down the advantages of radial ply tyres over bias - ply tyres. 10
- c) Write short notes on : 10
 i) Tyre pressure & wear.
 ii) Retreading process for tyres.

UNIT - V

5. a) Explain the following terms : 10
 i) Battery capacity iii) Battery efficiency
 ii) Battery rating iv) Battery voltage.
- b) Describe with neat sketch magneto ignition system with advantages & disadvantages. 10
- c) Explain the working principle & construction of dynamo. 10
