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Question Paper Code : 51093

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2014.

Fourth Semester

Automobile Engineering

AT 2252/AT 43/AT 1252/080190010/10122 AU 407 — AUTOMOTIVE CHASSIS

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the various loads acting on a chassis frame.
2. What is mean by under steer and over steer?
3. Why propeller shaft is made as hollow?
4. State the need of final drive.
5. Distinguish between live axle and dead axle.
6. Compare radial tyre and bias ply tyre.
7. State the functions of suspension system in a vehicle.
8. Write the advantages of coil spring over leaf spring with respect to suspension design.
9. What is mean by stopping distance?
10. Compare disc brake and drum brake.

PART B — (5 × 16 = 80 marks)

11. (a) Describe about types of power plant location and drive with advantages and disadvantages using sketches.

Or

- (b) Describe about front wheel geometry with neat sketches.

12. (a) Describe about Hotchkiss drive and Torque tube drive with sketches.

Or

- (b) (i) Discuss in detail about double reduction and twin speed final drives with sketches.
(ii) Discuss about types of constant velocity joints with neat sketches.
13. (a) Explain about the construction and working of semi-floating, three-quarter floating and fully floating axles with neat sketches.

Or

- (b) Discuss in detail about the different types of wheels and tires with respect to construction, advantages and disadvantages.
14. (a) Discuss in detail about multi leaf spring suspension system with neat sketch.

Or

- (b) Explain about unequal wishbone suspension system with reference to construction, mounting and working.
15. (a) Explain about hydraulic brake system and its parts with neat sketches.

Or

- (b) Write short notes on the following.
(i) Anti-lock braking system.
(ii) Effect of weight transfer during braking.
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