

Chapter 1 : Introduction To Automotive System 1-1 to 1-25

Automobile classification and specification : Automobile chassis: General layout, types of layout and its arrangement, Body construction type and Materials, Functional requirements of vehicle body, Body trim and fittings.

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Transmission Gear Box : sliding mesh, constant mesh, synchromesh gear boxes and four wheel drive.

Propeller shaft and drive shaft : Propeller shaft, universal joints, Hotchkiss and Torque tube drives, Front drive shaft types and its construction and working, differential gear box, rear axle, Automatic Transmission and CVT. Faults and diagnosis of power transmission system.

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Axle : Classification, type of front axle, construction, components and their functions, types of rear axle and application.

Suspension : Principle, Types of suspension systems, Functional requirements of suspension systems, Types and Constructional features of Front Suspension and rear Suspension system, Spring types, Rubber and Air suspensions, Factors affecting design and selection; Analysis of Suspension system: Mobility, kinematic/graphical analysis, Roll centre analysis and force analysis

Steering System : Steering Layout, types of steering gears, starting linkages, steering mechanism, definitions, and significance of camber, caster king, pin inclination, toe in and toe out on turn. Measurement and adjustment of various steering system layouts, steering ratio, under steering and over steering, power assisted steering, steering geometry, wheel alignment, and diagnosis of fault.

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Unit - V

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