

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester: 2

**Mechanical Engineering (I.C.Engine & Automobile)**

Subject Name Automobile Chassis & Body Engineering

---

Sr.No	Course content
1.	Vehicle Aerodynamics; Objects- vehicle drag and types; various types of forces and moments; effects of forces and moments; various body optimization techniques for minimum drag; principle of wind tunnel technology; flow visualization techniques; tests with scale models.
2.	Car Body Details; Types of car bodies; visibility; regulation;, driver's visibility; methods of improving visibility; safety design; constructional details of roof; under floor; bonnet; boot; wings etc; Classification of coach work.
3.	Design of Vehicle Bodies; Vehicle body materials; Layout of the design; preliminary design; safety; Idealized structure; structural surface; shear panel method; symmetric and asymmetrical vertical loads in car; longitudinal loads; different loading situations; load distribution on vehicle structure; Calculation of loading cases; stress analysis of bus body structure under bending and torsion; stress analysis in integral bus body; Design of chassis frame; Rules and regulations for body; Recent safety measures; Testing of body.

## Reference Books:

1. Vehicle Body Engineering – Pawloski J., Business Books Ltd.
2. The Automotive Chassis : Engineering Principles – Reimpell J.
3. Vehicle Body Layout and Analysis – John Fenton, Mechanical Engg. Publications Ltd. London
4. Body Construction and Design – Giles J. G., Illife Books, Butterworth and Co.