Unit - 1

Unit - 2
IC Engines: Air standard efficiency, combustion in SI and CI engines, detonation and knock -causes and variables affecting. Combustion chambers, air fuel system for SI and CI engines, supercharging, fuel injection systems, cooling and lubrication systems, performance and testing of engines. Air pollution due to IC engines and its control.

Unit - 3
Theory of Machines: Kinematics pairs and chains, four bar and slider crank mechanisms and their inversions, flywheels, governors, friction, dynamometers, belt and chain drives, gear and gear trains, balancing of rotating and reciprocating masses, cams, introduction to vibration.

Unit - 4

Design considerations, factor of safety, allowable stresses, design of automobile parts subjected to axial, bending and torsional loadings such as cotter and knuckle joints, shafts, keys and couplings, helical and laminated springs, levers.

Unit - 5
Strength of Materials: Concepts of stress and strain, mechanical properties of materials, Stress-strain diagram, Hooke's law, Poisson's ratio, elastic modulii, principal stresses and strains, Mohr circle, bending moment and shear force diagrams for simply supported and cantilever beams, bending and shear stresses in beams. Column and struts, thin cylindrical shells. Combined direct and bending stresses. Frames.

Unit - 6

Unit - 7

Computer fundamentals - hardware and software, operating systems, peripherals. Simple programming in C/C++. Computer aided design and drafting. Computer applications in inventory management and auto shop management.
Unit - 8
Workshop and Production Technology: Cutting tools and materials. Specification, classification and main operations of lathe, drilling, shaper, milling and slotter machines. Types, properties and selection of cutting fluids.


Unit - 9


Unit - 10

Unit - 11

Pattern of Question Papers:
1. Objective Type Paper.
2. Maximum Marks: 100
3. Number of Questions: 100
4. Duration of Paper: Two Hours.
5. All Questions carry equal marks.
6. There will be Negative Marking.

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