

UNIT I

Chapter 1 : Refrigeration Cycles 1-1 to 1-25

Refrigeration : Reversed Carnot Cycle, unit of refrigeration, Simple Vapour Compression Cycle (VCC), Refrigerating Effect, Compressor Power & COP. Simple Vapour Absorption Cycle (VAC), Comparison between VCC & VAC.

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UNIT IV

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UNIT V

Chapter 8 : Engine Systems and Alternative Fuels 8-1 to 8-50

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Lubrication system : Objectives of lubrication system, properties of lubricant, Methods of lubrication system,
Ignition system : Battery coil ignition system, magneto ignition system, Electronics Ignition (CDI, TCI), Maximum Brake Torque (MBT) and spark advance. Supercharging and Turbo-charging.
Alternative Fuels : Bio-diesel, Ethanol, LPG, CNG and Hydrogen.

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UNIT VI

<p>Chapter 9 : Positive Displacement Reciprocating and Rotary Compressors 9-1 to 9-46</p>
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Reciprocating Compressor : Applications of compressed air, single stage compressor (without clearance and with clearance volume), volumetric efficiency, isothermal efficiency, effect of clearance volume, free air delivery (FAD), actual indicator diagram for air compressor, Multistaging of compressor, optimum intermediate pressure, intercooler, aftercooler, capacity control of compressors.

Rotary compressors : Roots blower, Vane type, Screw compressor and Scroll compressor.

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