

**UNIT I****Chapter 1 : Introduction to Refrigeration 1-1 to 1-21****Syllabus :**

- 1.1 Necessity of Refrigeration, Unit of Refrigeration, concept of COP (actual and Theoretical)
- 1.2 Reversed Carnot cycle and its representation on P-V and T-S diagram
- 1.3 Bell coleman cycle and its representation on P-V and T-S diagram with simple numerical.
- 1.4 Air refrigeration system, component of air refrigeration system, Its applications

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- 2.2 Vapour Absorption Cycle, principle, its component, working of Aqua -Ammonia Vapour absorption system, working of Li-Br absorption system, Electrolux refrigerator- working, main components, applications. Comparison between Vapour Compression system and Vapour absorption system
- 2.3 Refrigerants, desirable properties, classification, designation of refrigerant, selection of refrigerant for relevant applications, System vaccumisation Charging processes, leak testing methods and process.
- 2.4 Montreal protocol, Kyoto protocol. Concept of Ozone Layer Depletion, Green House effect, Global warming, Eco friendly Refrigerants.
- 2.5 Applications of Refrigeration, House hold refrigerators, Water coolers, name of Manufacturers and their products with capacity.

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- 3.2 Condensers – classifications, working of air and water-cooled condensers, evaporative condensers , comparison and applications.
- 3.3 Evaporators- Classification- working of finned type, bared tube, plate type, flooded, shell and tube type evaporators, their applications. Chillers- Direct expansion and flooded type chillers, working and applications.
- 3.4 Expansion device- classifications, capillary tube, automatic expansion valve, Thermostatic expansion valve, selection, working and application.
- 3.5 Other components- Drier, Solenoid valve, Thermostatic switch, defrosting devices, working and applications.

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UNIT VI

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