

**END SEMESTER (REGULAR/RETEST) EXAMINATION,
DECEMBER, 2023**

Branch: Mechanical Engineering

Semester: 5th

Subject Code: Me-506

Refrigeration & Air-conditioning

Full Marks: 70

Time: 3 hours

All questions are compulsory.

1. Fill in the blanks. 1x10=10
 - a) _____ is used to detect leakage of Freon vapour.
 - b) _____ is the temperature recorded by an ordinary thermometer.
 - c) Electrolux refrigerator is also known as _____ fluid refrigeration system.
 - d) _____ Kelvin is known as Absolute Zero Temperature.
 - e) Carnot's COP depends on _____ only.
 - f) _____ is used as refrigerant in Bell-Coleman Refrigeration Cycle.
 - g) _____ type evaporator is most commonly used in Domestic refrigerator.
 - h) _____ atom is responsible for Ozone layer depletion.
 - i) In lithium Bromide absorption refrigeration system _____ is used as refrigerant.
 - j) DBT and WBT are equal when the air is _____.
2. State true or false. 1x5=5
 - a) The dehydrator used in VARS system is known as Rectifier.
 - b) Processing of Milk in industry is known as Canning.
 - c) Swept volume is the volume swept by the piston when it reciprocates from top dead to bottom dead center.
 - d) Centrifugal pump is used for small displacement and low condensing pressure.
 - e) Horizontal lines in Psychrometric chart expresses DBT.
3. Explain the main parts and function of a VCR system with a neat diagram. 4
4. What are the advantages of VCRS over VARS? 3
5. Write the chemical Formula/Name of the following refrigerants 1.5x6=9
 - a) R-30
 - c) R-134
 - e) R-114
 - b) R-40
 - d) R-744
 - f) R-717