ASSIGNMENT

UNIT –V

**Q1.** Explain the Rankine cycle with neat diagram.

**Q2.** Explain the vapour compression refrigeration cycle with neat diagram.

**Q3.** Explain following:

(i) Avogadro’s Law

(ii) Bleeding process

(iii) Enthalpy

**Q4.** Define Cp& Cv. Derive following expression:

Cp-Cv =R

Q **5.** A steam power plant is supplied with dry saturated steam at a pressure of 12 bar and exhausts into a condenser at 0.1 bar. Calculate the Rankine efficiency by using 1. Steam tables, and 2. Mollier chart.

Q **6.** The steam consumption of a steam engine is 20 tones per shift of 8 hours when developing 220 kW. Dry and saturated steam enters the engine at 10 bar pressure and leaves it at 0.1 bar pressure. Estimate the Rankine efficiency and the thermal efficiency of the engine.

Q **7.** A steam turbine receives steam at 15 bar and 350o C, and exhausts to the condenser at 0.06 bar. Determine the thermal efficiency of the ideal Rankine cycle operating between these two limits.

Q **8.** Steam at 50 bar, 400oC expands in it Rankine cycle to 0.34 bar. For amass flow rate of 150 kg/s of steam, determine 1. The power developed, 2. The thermal efficiency, and 3 Specific steam consumption