School of University Polytechnic
Diploma in Mechanical Engineering
Semester End Examination - Nov 2023

Duration : 180 Minutes
Max Marks : 100

Sem V - N1DL502B - Refrigeration and Air Conditioning

General Instructions
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1) Define air conditioning.   K1 (2)

2) Explain function of compressor in refrigeration system.   K2 (4)

3) Explain function of evaporator in refrigeration system.   K2 (6)

4) Construct p-h and t-s graph for vapour compression refrigeration system.   K3 (9)

5) Describe the mechanism of reverse Carnot refrigerataion cycle.   K3 (9)

6) Interpret specific humidity and relative humidity.   K5 (10)

7) Contrast p-h and t-s graph for theoritical vapour compression cycle with dry saturated vapour after compression.   K4 (12)

8) A refrigerating machine system operates on the reversed Canot Cycle. The higher temprature of the refrigerant in the system is 25 degree celsius and the lower temprature is -5 degree celsius. The capacity is to be 10 tonnes. Determine C.O.P. of sutem, heat rejected from the system per hour and power required.   K5 (15)

9) Explain working of practical vapour absorption refrigeration system with neat & clean diagram.   K5 (15)

10) Construct the t-s and p-h daigrams and find theoritical COP of for the vapour compression cycle when the vapour after compression is (i) dry saturated, and (ii) wet.   K6 (18)