Inter Architecture Examination, 2006

(2ⁿᵈ Semester)

Subject: Services & Equipments - II

Time : Three hours   Full Marks : 100

Answer for 100 marks.

1.   Draw and describe a 'Refrigeration Cycle'. Describe the conditions of comfort.   25

2.   What is Psychometry? Describe how a Psychometric chart is taken advantage of in understanding the various properties of air in a place.   25
        Calculate the 'Dew Point' when DBT = 78F and RH = 50%.

3.   Solve the following problem: 25
        Given: Outdoor DBT = 8 5F
                        Outdoor RH = 70%

        Suggest the treatment that is required to change the outside air to meet the inside comfort conditions in summer time.
        When we place methylated spirit on some part of our body and blow so that it evaporates, we feel cool at that part. Explain why it happens so.

4.   Describe seasible and latent heat in reference of air. With the help of a psychometric chart, describe the process of cooling and dehumidification.   Solve the following, problem: 25

        Given: Total air quantity required = 10,000 cfm
                        Return air quantity = 9000 cfm
                        Return air temperature = 80F DB and 62F WB
                        Outdoor air quantity = 1000 cfm
                        Outdoor air temperature = 90F DB and 75F WB.
        Find DBT and WBT of the air mixture.

5.   Describe the parameters in details upon which the calculation of air-conditioning load depends.   25

6.   Write short notes on (any five)   25

        i)   cooling tower
        ii)   gracias of moisture
        iii)   Heat Load
        iv)   Duct sizing
        v)   Enthalpy
        vi)   Split AC
        vii)   U-Factor
        viii)   1B TU/hr
        ix)   CFM
        x)   Dew point