



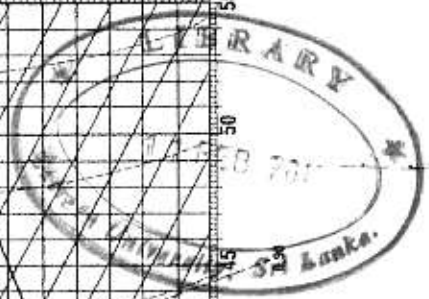
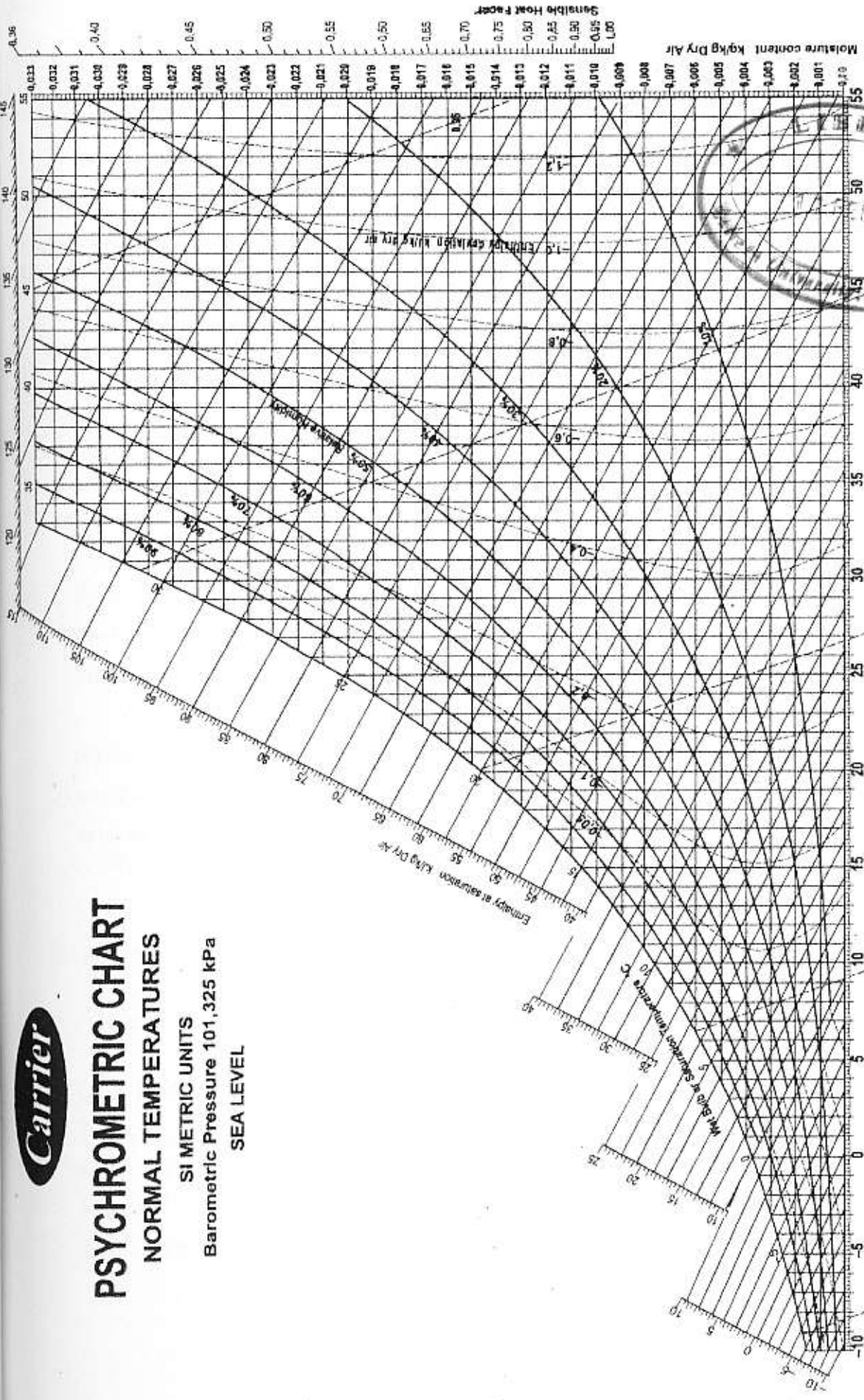
PSYCHROMETRIC CHART

NORMAL TEMPERATURES

SI METRIC UNITS

Barometric Pressure 101,325 kPa

SEA LEVEL



Dry Bulb Temperature °C

0.00

0.75

Below 0°C, Properties and Enthalpy Deviation Lines Are For Ice

Volume m³/kg dry air

EASTERN UNIVERSITY, SRILANKA

SECOND YEAR SECOND SEMESTER EXAMINATION IN AGRICULTURE - 2008/2009

(October/November 2010)

AEN 2202 POSTHARVEST TECHNOLOGY (2:30/00)



Answer all questions

Time: Two hrs

01. (a) List out the different grading systems of paddy.
(b) Give the advantages of grading system of paddy for marketing.
(c) Briefly describe the factors considered in quality control of paddy.
(d) Give some suggestions to minimize the postharvest losses of grains.
02. (a) Write brief note on moisture migration in cereals during storage.
(b) Explain different types of storage systems used in rice mill industry.
(c) Briefly describe the factors influencing the shelf life of fruits and vegetables.
03. (a) Briefly describe the thermodynamic properties of moist air used in psychrometric chart.
(b) A bin of paddy is to be dried with air at dry bulb temperature of 39°C and the air flow rate of $45 \text{ m}^3/\text{s}$. The average relative humidity of the outlet air is 70%. The atmospheric conditions of the air are dry bulb temperature of 26°C and wet bulb temperature of 19°C .
 - (i) Show the graphical representation of the psychrometric behavior of this process.
 - (ii) Determine the mass flow rate of the drying process.
 - (iii) Calculate the sensible heat to be added per hour.
 - (iv) Find out the amount of moisture that could be removed from the grain mass per hour.
04. (a) Give the steps involved in modern milling process.
(b) Write short notes on the following.
 - (i) Sun drying of paddy.
 - (ii) Parboiling of paddy.