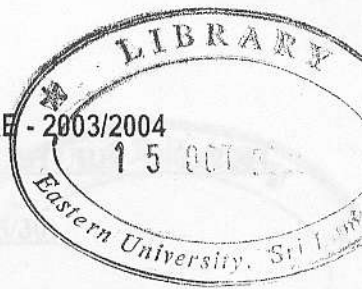


EASTERN UNIVERSITY, SRI LANKA
SECOND YEAR SECOND SEMESTER EXAMINATION IN AGRICULTURE - 2003/2004
AEN 2202 POST HARVEST TECHNOLOGY (2:30/00)



Answer all questions

Time: Two hours

1. (a) Briefly discuss the history of marketing paddy in Sri Lanka and the importance of storage of paddy in an effective marketing system.
(b) Briefly describe the following:
 - (i) Parboiling of paddy
 - (ii) Moisture migration in storage

2. (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 50°C and the air flow rate of $48 \text{ m}^3/\text{s}$. The average relative humidity of the outlet air is 70%. The atmospheric conditions of the air are 30°C dry bulb temperature and 20°C wet bulb temperature. Determine the amount of sensible heat to be added per hour and find out the amount of moisture could be removed from the grain mass per hour.
(Psychrometric chart is provided)

3. (a) Briefly describe the following:
 - (i) Sensible heating and cooling.
 - (ii) Cooling and dehumidifying.
(b) A bin of grain is to be chilled with air at a dry bulb temperature of 5°C and an air flow rate of $41 \text{ m}^3/\text{s}$. If ambient conditions of the air are 30°C dry bulb temperature and 20°C wet bulb temperature, determine the amount of heat and moisture which has to be removed per hour from the air by this chilling unit.
(Psychrometric chart is provided)

4. Write short notes on the following:
 - (a) Respiratory climacteric fruits.
 - (b) Principal causes of post harvest losses in fruits and vegetables.
 - (c) Post harvest physiology of fresh produce.
 - (d) Controlled atmospheric storage of fresh produce and its importance.