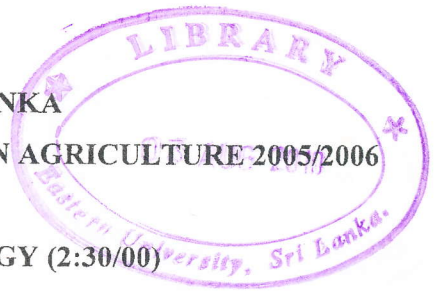


EASTERN UNIVERSITY, SRI LANKA



SECOND YEAR SECOND SEMESTER EXAMINATION IN AGRICULTURE 2005/2006

(March – May 2010)

AEN 2202 - POSTHARVEST TECHNOLOGY (2:30/00)

(EXTERNAL DEGREE)

Time: 2 Hours

Answer all questions

1. (a) Post harvest losses are the major problem in Sri Lankan agricultural sectors. Describe the measures that can be adopted to minimize the post harvest losses of paddy?
(b) Briefly explain the role of moisture content in postharvest technology of paddy, seed paddy and the quality of rice?
2. (a) Compare and contrast the process of heating with humidifying and drying?
(b) Briefly explain the milling operations that produce better quality and yield of white rice from paddy?
3. Write short notes on the followings
 - a) Grading system in paddy
 - b) Advantages and Disadvantages of parboiling
 - c) Importance of the assessment of postharvest losses in cereals.
4. A bin of paddy is to be dried with air at dry bulb temperature of 38°C and the airflow rate of $50 \text{ m}^3/\text{s}$. The average relative humidity of the outlet air is 80%. The atmospheric conditions of the air are 21°C dry bulb temperature and 19°C wet bulb temperature.
 - a) Graphically show the above drying process in a psychrometric chart and calculate the following.
 - i. Specific volume (V) of dry air at drying conditions.
 - ii. Mass flow rate (MFR) of drying process
 - iii. Sensible heat to be added per hour.
 - iv. Amount of moisture could be removed from the grain mass per hour.
 - b) If the moisture content of 1000 kg of paddy reduced from 22% to 14% (wet basis), calculate the amount of moisture removed from that bulk paddy.