KERALA AGRICULTURAL UNIVERSITY

B.Tech (Food. Engg) 2012 Admission

III ʳᵈ Semester Final Examination- December /January -2013

Cat. No: Fden.2104

Title: Crop Processing Engineering (2+1)

Marks: 80

Time: 3 hours

I. Answer the following

(10x1= 10)

1. _____ is a method of separating particles according to size alone

2. LSU dryer is a _____ type of grain dryer.

3. The degree of polishing in rice is limited to _____ .

4. Inclined belt separator separates the material on the basis of _____ .

5. The point at which moisture content changes from constant rate to falling rate

   is known as _____ moisture content

6. Hammer mill works on the principle of _____ force

7. In size reduction of fine powders, _____ law is found to be more applicable.

8. For conveying of grains in belt conveyor, the belt speed recommended is_____ .

9. Parboiling of paddy is a _____ process.

10. The optimum temperature for parboiling of wheat is _____ ° C

II. Answer any Ten questions

(10x3=30)

1. List out the various properties determined using Psychometric chart.

2. Distinguish between thin layer drying and deep bed drying.

3. Explain the working principle of Jaw Crusher.

4. Differentiate between shelling and decortication.

5. Give the equation to find out effectiveness of screen.

6. Explain the working principle of colour sorter.

7. Write a note on merits and demerits of parboiling.

8. Explain the working of Engle berg huller.

9. Write a note on dry method of pulse milling.

10. Enumerate the various factors considered in selection of material handling equipments.

11. Write Rittinger's law.

12. Write a short note on extrusion cooking.

III. Answer any SIX questions   (6x5=30)

1. Explain with neat sketch the working of magnetic separator.

2. Explain the principle and working of maize sheller with a neat diagram.

3. Give a note on design considerations and working of belt conveyor.

4. Explain with neat sketch the working of a ball mill and how the critical speed of the ball mill is determined?

5. Explain the construction and working of a LSU drier with neat sketch.

6. Elaborate on the various methods of paddy parboiling.

7. Write a note on manufacturing process of any two soy products with a flow chart.

8. Describe the wet and dry milling of corn with a flow diagram.

IV. Answer any one   (1 x 10=10)

1   a. Discuss in detail the wheat milling with a flow chart.   (6)

    b. 2 tonnes of wheat with 22% moisture content on wet basis are to be dried to 13% moisture content on dry basis. Calculate the weight of bone dry product and moisture evaporated.   (4)

2 a. Give a detailed note on modern rice milling with a process flow chart.   (6)

   b. Explain the working of air screen cleaner with neat sketch.   (4)