KERALA AGRICULTURAL UNIVERSITY

B.Tech (Food. Engg) 2011 Admission
III rd Semester Final Examination- January/February -2013

Cat. No: Fden.2104   **Marks: 80**
Title: Crop Processing Engineering (2+1)   **Time: 3 hours**

PART –A

Fill up the blanks/Match the following/State true of False/Define
Answer all the questions   **(10 x 1 =10)**

1. For effective screening, the length of the screen should be _____ of width
2. _____ separates the food material based on relative length

3. For effective grinding in ball mill, the operation speed must be ___ the critical speed

4. In CFTRI method of parboiling, the resultant temperature of paddy water mix is stay at _____

5. The peripheral speed of faster roller in rubber roll sheller is _____

6. Flat belt idlers are used for conveying the materials bearing the angle of repose of _____

7. Non easy flowing material is conveyed through _____ screw conveyer

8. Hot pulses are tempered after each pass in tempering bin for about _____ hours

9. In attrition mill, the size of food grain is reduced by_____ action

10. 100 kg of grain is dried from 18% (wb) to 13% (wb). The amount of water removed is _____

PART – B

Write short notes/answers on Any Ten   **(10 x 3=30)**
1. What are the merits of polishing?
2. Explain the principles of colors sorter.
3. What is pressure parboiling?
4. Different types of screen opening.
5. What is threshing? List different type of threshing cylinders.
6. Write a note on dry milling of corn.
7. Differentiate ideal & actual careens.
8. Write a note on Baffle Dryer.
9. Explain principles of magnetic separators.
10. What is deep bed drying?
11. Working principles of gyratory crusher.

12. Explain the groundnut decorticator.

PART –C

Answer any Six of the following (6 x 5=30)

1. State government of Kerala has fixed the rate of paddy as Rs. 1000/- quintal with 18 % moisture content on wet basis. A farmer is having 10, 000 kg of paddy with 22 % M.C on wet basis. What will be the total payment made to the farmer?
2. Explain various conveying systems.
3. Explain CFTRI method of paddy parboiling.
4. Explain the working of a rubber roll sheller with neat sketch.
5. Write a note on size reduction by ball mill.
6. Discuss briefly about soybean processing.
7. Explain LSU dryer with the help of neat sketch.
8. Explain wet milling of pulse.

Part-D

Write essay on any One (1 x 10=10)

1. a). Discuss briefly about soybean processing.

   b) During evaluation of an air screen grain cleaner with two screens, 250 g samples were collected for analysis of clean seed fraction from different outlets. The mass fraction of good grain in feed, over flow and under flow outlets was found to be 0.90, 0.98 and 0.24, respectively. Calculate the cleaning efficiency of the cleaner.

2. With the help of diagram explain the process of modern rice milling operations.