

KERALA AGRICULTURAL UNIVERSITY

B.Tech.(Food Engg.) 2016 Admission III Semester Final Examination-January-2018

Crop Process Engineering (2+1)

Marks: 50

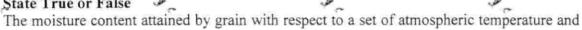
Time: 2 hours

1 Fill in the blanks

(10x1=10)

- The angle of repose is the angle of friction taken up by a granular solid to about slide to upon itself.
- In CFTRI method water is heated to temperature of°C
- method is recognized as an official method for determination of moisture content.
- Differential speed of rolls of wheat mill is
-is the total volume in cubic meter of 1 kg dry air and its accompanying water vapor.

State True or False



- relative humidity is called the absolute moisture content.
- Scalper is used for primary removal of large impurities in an initial process of cleaning.
- The separation by inclined belt drapper takes place due to difference in shape and surface texture of the material.
- The peripheral speed of the vertical whitening cone should be about 23m/s.
- During parboiling water requirement is about 1-25 times the weight of paddy and steam requirement is 200 kg/ton of paddy parboiled.

П Write Short notes on any FIVE of the following

(5x2=10)

- Differentiate spiral separator from cylinder separator 1
- 2 How the rubber roll Sheller is advantageous compared to the Engleberg huller?
- State and explain wet milling of pulses. 3
- What are the different unit operations involved in wheat milling?
- How milling of corn takes place? Explain corn milling with the help of a process flow chart.
- Which are the different types of dryers used in food processing? Write advantages of continuous dryer over batch dryer.
- What are the by-products from a rice mill?

Answer any FIVE of the following. Ш

(5x4=20)

- What are the equations used for finding out the theoretical conveyance capacity (m3/h) and the power requirement of the screw conveyor for horizontal operation.
- State and explain principle of operation of Gyratory crusher.
- How rice bran stabilization done? 3
- What is the operating principle of bucket elevator? 4
- How Vibratory Air-Screen cleaner works? 5
- Explain working principle of under-runner disk huller.
- What is power required to crush 120 ton/h of limestone if 80% of feed passes a 2-in. screen and 80% of a product a 1/8-in.screen?

Write an essay on any ONE of the following IV

(1x10=10)

- What are the advantages of parboiling of paddy? Explain CFTRI method of paddy parboiling.
- State operating principle of vertical polishing cone