



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

Fden.2104

Crop Process Engineering (2+1)

Marks: 50
Time: 2 hours
(10x1=10)

I Fill in the blanks

- 1 The angle of repose is the angle of friction taken up by a granular solid to about slide to upon itself.
- 2 In CFTRI method water is heated to temperature of°C
- 3 method is recognized as an official method for determination of moisture content.
- 4 Differential speed of rolls of wheat mill is
- 5is the total volume in cubic meter of 1 kg dry air and its accompanying water vapor.

State True or False

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

II Write Short notes on any FIVE of the following

(5x2=10)

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

III Answer any FIVE of the following.

(5x4=20)

- 1 What are the equations used for finding out the theoretical conveyance capacity (m^3/h) and the power requirement of the screw conveyor for horizontal operation.
- 2 State and explain principle of operation of Gyrotory crusher.
- 3 How rice bran stabilization done?
- 4 What is the operating principle of bucket elevator?
- 5 How Vibratory Air-Screen cleaner works?
- 6 Explain working principle of under-runner disk huller.
- 7 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?

IV Write an essay on any ONE of the following

(1x10=10)

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