



KERALA AGRICULTURAL UNIVERSITY
B.Tech. (Ag. Engg.) 2017 Admission
III Semester Final Examination-January 2019

Fape.2102

Post Harvest Engineering of Cereals, Pulses and Oil Seeds (2+1)

Marks: 50
Time: 2 hours

I Fill up the Blanks

(10x1=10)

- 1 The vapour pressure during sensible heating of moist air _____
- 2 Belt speed for transportation of grain should not increase by _____
- 3 _____ is psychrometric process that involves the cooling of air without heat loss or gain.
- 4 'R' pocket type disc separators are used for separation of _____
- 5 In dry milling process, _____ operation is done prior to oil treatment.
- 6 Rice recovery in parboiling as compared to raw rice milling is _____
- 7 The hammer of hammer mill is made of _____
- 8 Standard screens used to measure the particle size range between _____
- 9 LSU dryer was developed at _____ in _____
- 10 In oil extraction unit, the most commonly used solvent is _____ and its boiling point _____

II Write short notes on any FIVE of the following

(5x2=10)

- 1 Different EMC models.
- 2 Differences between deep bed and thin layer dryers.
- 3 Preconditioning of oilseeds.
- 4 Parboiling, its advantages and disadvantages.
- 5 Wet Method milling of pulses.
- 6 Different size reduction laws.
- 7 Different psychrometric properties.

III Answer any FIVE of the following.

(5x4=20)

- 1 Explain drying rate periods
- 2 With a neat sketch, explain Hammer mill.
- 3 Different methods of parboiling.
- 4 In wheat milling experiment it was found that to grind 4.33mm sized grains to IS sieve 35(0.351mm opening), the power requirement was 8 kW, calculate the power requirement for milling of wheat by same mill to IS sieve15 (0.157 opening) using
1) Rittinger's law 2) Kick's law, feed rate of milling is 200kg/hr.
- 5 Explain screen effectiveness. Derive the expression for Effectiveness of screen.
- 6 What are the points to be considered in selection of material handling device? With a neat sketch explain bucket elevator.
- 7 What is Extrusion cooking? With a neat sketch explain working principle of single screw Extruder.

IV Answer any ONE of the following

(1x10=10)

- 1 Different dry milling methods of pulses.
- 2 With a neat sketches, Explain different separation equipments.
