



**KERALA AGRICULTURAL UNIVERSITY**  
**B.Tech. (Agrl.Engg.) 2018 Admission**  
**III Semester Final Examination-December 2019**

Fape.2102

Post Harvest Engineering of Cereals, Pluses and Oil seeds (2+1)

Marks: 50  
Time: 2 hours

**I Choose the correct answer (10x1=10)**

1. In Specific gravity separator the separation happens according to difference in \_\_\_\_\_.  
a Density or Specific Gravity      b Size only  
c Roundness      d Relative length
2. The device for collecting the end product in processing operation.  
a Cyclone separator      b Colour separator  
c Disk separator      d Spiral separator
3. Spiral separator separates the grains as per  
a length      b thickness      c roundness      d surface texture
4. Pneumatic separator, separates the grains on the basis of  
a Aerodynamic properties      b Thermodynamic properties  
c Physical properties      d Mechanical properties
5. Range of terminal velocity for wheat is \_\_\_\_\_ (m/s)  
a 9.1 to 18.3      b 5.2 to 8.0      c 8.0 to 12.0      d 5.8 to 9.8
6. The process of separation of liquid from a liquid solid system with the use of solvent.  
a extraction      b expression      c screening      d none
7. In gyratory crusher speed of crushing ranges from (gyrations/min)  
a 100 to 125      b 125 to 425      c 425 to 525      d none
8. As per inclination of conveyance, the capacity of screw conveyor correspondingly  
a reduces      b increases      c remains same      d none
9. Capacity of bucket elevator ranges from (t/hr)  
a 1 to 2      b 2 to 100      c 2 to 1000      d None of these
10. The disk of burr mill are usually operated at  
a 350 to 700 rpm      b 200 to 350 rpm      c 100 to 200 rpm      d 0 to 100 rpm

**II Write Short notes on ANY FIVE of the following (5x2=10)**

1. During evaluation of an air screen grain cleaner with two screens the following were observed:
  - a) The impurities present in the feed were 6.5%.
  - b) The impurities present in clean grain were 0.5%.
  - c) The over flow of blower contained 0.2% clean seed.
  - d) The over flow of first screen contained 1% clean seed.
  - e) The under flow contained 0.5% clean seed.Compute the cleaning efficiency of the cleaner.
2. Explain methods of size reduction.
3. Explain hydraulic press with a neat diagram.
4. Explain dough and paste mixers.

PTO

5. List the selection criteria of material handling devices.
6. Explain traditional methods of parboiling.
7. Write a short note on screen effectiveness, ideal and actual screens.

**III Answer ANY FIVE of the following**

**(5x4=20)**

1. Define screening. Explain perforated and wire mesh screens with a neat diagram.
2. Explain pneumatic separator with a neat diagram.
3. Explain briefly about hammer mill with a neat diagram.
4. Explain dry method of pulse milling with a flow chart.
5. Explain drying theory? Brief about mixing and non-mixing continuous dryer.
6. Write the process flowchart to obtain fully refined bran oil.
7. Write a short note on static and dynamic method of moisture determination.

**IV Write an essay on ANY ONE of the following**

**(1x10=10)**

1. Brief about the importance of material handling devices. Explain belt conveyor with a neat diagram.
2. Brief about design considerations of an air screen grain cleaner?

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