# KERALA AGRICULTURAL UNIVERSITY

## B.Tech (Agrl.Engg.) 2015 Admission

### III$^{rd}$ Semester Final Examination-January-2017

C:... No: Phpt.2102.                                                                                    Marks: 50.00

Ti e: Engineering Properties of Biological Materials and Food Quality(2+1)          Time: 2 hours

**I  :ll up the blanks/Define** (10x1=10)

1. Roundness is a measure of -----------on corners of the solid.
2. Specific gravity balance is suitable for -----------objects.
3. Simplest method of finding surface area of a symmetrical objects like egg is ----------- method.
4. $1/E = $ -----------$+1/9K$
5. Mechanical model that represents Newtonian fluid is -----------
6. Unit for thermal conductivity is -----------
7. During parboiling, hardness of rice -----------
8. If ball mill is operated beyond critical speed ----------- will occur.
9. Resistance to applied force is -----------
10. Define Terminal velocity

**II  Write short notes/answers on any FIVE of the following** (5x2=10)

1. Write a note on Hookean body.
2. Differentiate Newtonian fluid and non-newtonian fluid.
3. Differentiate plastic and viscous flow.
4. Write a note on effect of moisture content on porosity.
5. Write a note on air flow planimeter.
6. List the uses of electrical properties.
7. Draw the velocity profile for dilatant and highly dilatant fluids.

**II: Write short answers on any FIVE** (5x4=20)

1. Explain the procedure to find thermal conductivity using line heat source method.
2. Explain the procedure to find adulteration in ghee.
3. Explain generalized Kelvin model using suitable diagram.
4. Explain the procedure to find surface area of egg.
5. Write a note on Food Regulations.
6. Write a note on TQM.
7. Explain the importance of HACCP.

**:V  Write essay on any ONE** (1x10=10)

1. Explain the different methods of sampling Techniques.
2. Explain the role of CAC in maintaining Food safety.

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