KERALA AGRICULTURAL UNIVERSITY

B.Tech (Food. Engg) 2014 Admission
IInd Semester Final Examination-June/July -2015

Cat. No: Fden.1201   Marks: 50.00

Title: Engineering Properties of Biological Materials (2+1)   Time: 2 hours

I Define   (10 x 1=10)

1. Sphericity
2. Viscosity
3. Specific heat
4. Thermal conductivity
5. Angle of repose
6. Coefficient of friction
7. Rheology
8. Loss tangent
9. Drag coefficient
10. Terminal velocity

II Write short notes on any FIVE questions   (5 x 2=10)

1. Explain the relationship between Bulk density and true density
2. Explain porosity measurement
3. Explain Newtonian behavior of fluids
4. Define kinematic viscosity
5. Explain shear stress and shear rate
6. Explain lift and drag force
7. Explain rolling resistance with example

III Write short essay on any FIVE questions   (5 x 4=20)

1. Explain the procedure for measuring thermal diffusivity
2. Explain working of capillary flow viscometers
3. Explain textural measurement methods
4. Explain the procedure for measuring coefficient of internal friction
5. Discuss rheological models
6. Discuss types of friction
7. Write a brief note on electrical properties

III Write essay on any ONE   (1 x 10=10)

1. Discuss application of thermal properties in design of food processing equipment
2. Write a detailed note on mechanical properties of food materials