**Karunya University**

**(Karunya Institute of Technology and Sciences)**

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

**Supplementary Examinations – June 2016**

**Subject Title: Physical Properties of Food Materials Time : 3 hours**

**Subject Code: 14FP2016 Maximum Marks: 100**

**Answer ALL questions (5 x 20 = 100 Marks)**

**Compulsory:**

1**.** Describe with a neat sketch wherever necessary to estimate the following for fruits and vegetables a. Volume b. Density

2. a. Explain in brief about application of stress strain analysis in rheology of foods. (10)

b. Describe with a neat sketch the working of any Rotational viscometer. (10)

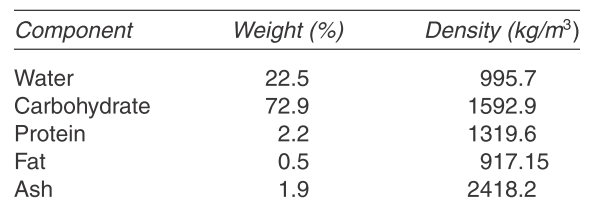
**(OR)**

3. Describe the different types of instrumental tests carried out in measurement of texture of food.

4. Explain in detail about various prediction models for thermal conductivity measurement of food materials.

**(OR)**

5. The composition of date fruit (Phoenix dactylifera) and the densities of food components are given in Table. Determine the thermal conductivity of the fruit at 25◦C, using parallel and series models.



6. a. Describe with a neat sketch the Water Activity Determination by Vapor Pressure Measurement method. (10)

b. Describe with a neat sketch the Water Activity Determination by Hygrometer. (10)

**(OR)**

7. a. Write a note on factors affecting shelf life of food materials. (10)

b. Explain in detail about drag, lift co-efficient and terminal velocity. (10)

8. Write in detail about the following:

a. Dielectric constant. (7)

b. Dielectric loss factor. (7)

c. Effect of moisture content over dielectric constant (6)

**(OR)**

9. Describe the Dielectric properties of:

a. Starch b. Sugar c. Gum