

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (Agriculture Engg.) (Sem.-6)  
**ENGINEERING PROPERTIES OF BIOLOGICAL MATERIALS  
AND FOOD QUALITY**

Subject Code : BTAG-607-19

M.Code. : 91605

Date of Examination : 15-07-22

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

1. Write briefly :

- a. What is usefulness of determining physical properties of biological materials?
- b. What do you understand from angle of repose and coefficient of friction?
- c. Differentiate among the specific heat capacity, thermal conductivity, and thermal diffusivity.
- d. Differentiate between the Bulk density, Tapped bulk density and True density.
- e. How will you differentiate among hue, saturation and chroma?
- f. What are the main sensory attributes of a flavor?
- g. What is the difference in rheology and viscosity?
- h. Differentiate between the desirable and undesirable flavors.
- i. What are five primary tastes?

j. Define the following :

- i) Shear Strain
- ii) Tensile stress
- iii) Shear Stress.

### SECTION-B

- 2. What is the application of aerodynamic properties in biological materials?
- 3. What do you understand from sphericity, aspect ratio, ellipsoid ratio and slenderness ratio? Give examples also.
- 4. Write about the force-deformation curve for an agricultural product.
- 5. Write a short note on texture profile analysis with a suitable diagram.
- 6. What is the pair comparison, Duo-trio test, and triangle test?

### SECTION-C

- 7. How are the textural and rheological properties measured by using different instruments?
- 8. Explain in detail the various methods of color measurement.
- 9. What kind of pretreatment given to foods before sampling? Explain in detail various sampling steps and techniques.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**