KERALA AGRICULTURAL UNIVERSITY
B.Tech. (Agrl. Engg.) 2021 Admission
I Semester Final Examination - May 2022

Fape.1101   **Engineering properties of Agricultural Produce (1+1)**   **Marks:50**
Time: 2 hours

I   **Match the following**   **(10x1=10)**

	Column A	Sl. No.	Column B
1.	Roundness	A.	De/Dc
2.	Water activity	B.	Dry basis
3.	Thermal properties	C.	Storage bin
4.	Pycnometer	D.	r / R
5.	Roundness ratio	E.	ERH
6.	Moisture content	F.	Specific gravity
7.	Newtonian fluid	G.	Ap /Ac
8.	Modulus of elasticity	H.	Milk
9.	Spherecity	I.	Specific heat
10.	Frictional properties	J.	Stress / strain

II   **Write short notes on ANY FIVE of the following**   **(5x2=10)**
1. Write about the importance of shape and size of grains.
2. Discuss the use of surface area of fruits and vegetables.
3. What is creep and stress relaxation?
4. Define drag force with formula.
5. Define rolling resistence.
6. What do you understand from specific heat and thermal conductivity?
7. Define dielectric constant.

III   **Answer ANY FIVE of the following**   **(5x4=20)**
1. Discuss the procedure of volume determination of fruits and vegetables.
2. Discuss the kelvin model.
3. What is rheology? Discuss different types of stresses.
4. Draw an expression of terminal velocity.
5. Discuss the determination of angle of repose and angle of internal friction.
6. Discuss the Newtonian and Non-Newtonian liquid with suitable plot.
7. What engineering properties are required for the storage structures?

IV   **Write an essay on ANY ONE of the following**   **(1x10=10)**
1. Application of Electrical properties in Food Processing.
2. Thermal properties in Food Engineering.

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