

Enrolment No:

Name:

2022
JH Sem.

M.Tech. Food Technology (I semester) 2023
Sessional Exam-I
MFTD-107: Engineering Properties of Foods

Time: 1 hour

Maximum Marks: 30

Section A (All the questions are compulsory)

(5x2=10 marks)

1. Define "sphericity" in the context of physico-chemical characteristics of food materials.
2. Explain the concept of "porosity" and its importance in food material characterization.
3. What is the significance of the angle of repose in the characterization of food materials?
4. Why is coefficients of friction an important considerations in food processing?
5. Explain the significance of the Reynolds number in food processing and its relevance to fluid flow.

Section B (Answer any two questions)

(2x5=10 marks)

1. Discuss the physico-chemical characteristics that are important in determining the flow properties of food materials. How can these characteristics impact food processing?
2. Explain the concept of rheological models used to describe the flow behavior of food materials. Provide examples of commonly used rheological models.
3. Differentiate between Newtonian and Non-Newtonian fluids. Provide examples of each type of fluid in the context of food materials. Explain the implications of their rheological behavior in food processing.

Section C (Answer any one question)

(1x10=10 marks)

1. In food texture analysis, explain the concept of "texture profile analysis" (TPA). Describe the key parameters measured in TPA and their relevance in food quality assessment.
2. Explain the concept of linear visco-elasticity in food materials. Discuss the behavior of food materials under creep and stress relaxation tests and their significance in food processing.

Section A	CO-PO mapping	Section B	CO-PO mapping	Section C	CO-PO mapping
1	CO1;PO1,6	1	CO1,4;PO1,4	1	CO4;PO1,5
2	CO1;PO1,4	2	CO3;PO1	2	CO3;PO1,4
3	CO1;PO1,3	3	CO3;PO1		
4	CO4;PO4,7				
5	CO4;PO4,7				