B.Tech.
6th Sem.
2023

Roll No.....

Department of Food Technology
School of Interdisciplinary Sciences and Technology
Jamia Hamdard, New Delhi-110062

END SEM EXAMINATION

May, 2023. B Tech 6th SEM

Paper Title: Engineering Properties of Food Materials; Paper Code: BFTC – 602

Time allotted: 3Hrs. Max Marks: 75

Note: Important: At the END, mention how many questions from each section you have attempted.
Students are supposed to carry their own Calculator. Sharing of Calculator Isn't allowed.

Section-A (15 Marks, Attempt All)

Questions	Marks	Mapping
Q1. Dielectric loss factor	(2)	PO: 1,4/CO: 3,5
Q2. Emulsion	(2)	PO: 1,3 /CO: 2,4
Q3. Porosity	(1)	PO: 1,4/CO: 3,5
Q4. Color measurement	(2)	PO: 1,4/CO: 3,4,5
Q5. Equilibrium moisture content	(2)	PO: 1,2,4/CO:1,2,6
Q6. Dielectric Constant	(2)	PO: 1,2,3/CO:1,2,6
Q7. Supercooling	(1)	PO: 1,4/CO:1,2,7
Q8. Carr Index	(1)	PO: 1,4/CO:1,2,7
Q9. Manometers	(2)	PO: 1,3,4/CO: 1,3,5

Section- B (Attempt any 5) (6 Marks Each)

Q10. A batch of 5 kg of food product has a moisture content of 150% dry basis. Calculate how much water must be removed from this product to reduce its moisture content to 20% wet basis. PO: 1,4/CO: 1,3,5

Q11. Discuss the significance of aerodynamic properties in Food processing. Give suitable examples. PO: 1,3,4/CO: 3,45

Q12. Calculate the thermal conductivity if the composition of food material is 22% Protein, 25% carbohydrate, 10% fat, 0.25% ash and remaining water. PO: 1,3 /CO: 1,2,4

Q13. Discuss LVE. Write its significance. PO: 1,4/CO: 1,3,5

Q14. Explain the working of Farinograph PO: 1,4/CO: 3,6,7

Q15. Discuss the significance of engineering properties of foods. Give examples. PO: 1,4/CO: 3,6,7

Q16. The terminal velocity of a metal ball (2mm radius) falling through starch suspension at 60°C is 6.5 cm/s. Compute the viscosity of the starch suspension. Density of starch suspension is 1.5×10^3 kg/m^3 and density of metal is 8.9×103 kg/m^3 PO: 1,3,4/CO:1,3,6

Section C (Attempt any 2) (15 Marks Each)

Q17. Discuss Texture Profile Analysis. What do we infer from its results. Give suitable example of each parameter. PO: 1,4/CO: 3,5

Q18. Discuss the Rheological classification of foods in detail. Give the equations for different models with suitable examples of foods. PO: 1,3,4/CO:1,3,7

Q19. Write a note on Pasting properties. What do you infer from each parameter. Explain with examples PO: 1,4/CO: 3,5