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

Roll No.....

END SEM EXAMINATION (December, 2025).

M.Sc. Food Science & Technology (III Semester)

Paper Title: **Non-Thermal Food Processing**; Paper Code: **MFSC-301**

8.12.25
M.Sc. food Science 3rd Se.
End Sem

Time allotted: 2 hr 30 min **Maximum marks: 60**

Important: At the END, mention how many questions from each section you have attempted.

***Note:** Write to the point. Before answering make sure you have mentioned the Question No. & Section.*

Section-A (Attempt all) (5×2=10 marks)

Questions	Mapping
Q1. Define minimal processing in foods.	CO1,5,6:PO6
Q2. What is meant by hurdle technology?	CO7:PO9
Q3. State any two natural food preservatives.	CO1,2:PO1
Q4. Mention two applications of membrane filtration in food industry.	CO2:PO2
Q5. What is food irradiation?	CO2:PO2

Section- B (Attempt any five) (5×6=30 marks)

Questions	Mapping
Q6. Describe the effect of irradiation on microorganisms and food quality.	CO3:PO3
Q7. Explain the role of antimicrobial proteins such as lactoferrin and bacteriocins in food preservation.	CO5:PO3
Q8. Discuss the concept and applications of pasteurization.	CO7:PO8
Q9. Describe ultrasonic processing and its impact on microbial cells.	CO1,3:PO3
Q10. Discuss ohmic heating of food samples with a schematic diagram.	CO5:PO4
Q11. Explain the working principle and applications of pulsed electric field (PEF) processing.	CO5:PO3
Q12. Discuss the mechanism of action of ozone as a non-thermal processing method.	CO3:PO3

Section C (Attempt any two) (2×10=20 marks)

Questions	Mapping
Q13. Discuss traditional food preservation technologies and compare them with emerging non-thermal processing methods.	CO5:PO4
Q14. Explain in detail the equipment, process parameters, microbial effects, and food quality changes in high hydrostatic pressure (HHP) processing.	CO5:PO4
Q15. Describe membrane-based non-thermal technologies and their applications in food processing.	CO7:PO5
Q16. Explain freeze drying and discuss in terms of principle, process flow, and advantages.	CO7:PO2