

G. S. Mandal's

## Maharashtra Institute of Technology, Aurangabad

(An Autonomous Institute )

END SEMESTER EXAMINATION

**First Year M.Tech(FPT) -April/May 2022**

Course Code : MTF104

Course Name : Advances in Food Process.

Technology

Duration : 2 Hrs

Max. Marks : 50

Date : 11/04/2022

**Instructions :**

- i) All questions are compulsory
- ii) Assume suitable data wherever necessary and clearly state it
- iii) Figures to the right indicate full marks

Q. 1	Solve/Answer Any Five (Marks: 10)			
	Questions	Marks	CO	BL
a)	Define the term pulse light technology and enlist different mechanisms used for microbial inactivation	2	1	1
b)	Enlist the names of novel minimal processing techniques	2	1	1
c)	Match the following suitable state of food with food category for high pressure processing: <b>State of food</b> <b>Food category</b> i. Solid                                      a. Fruit juice ii. Liquid                                    b. Cooked meat iii. Packaged                                c. Bread iv. Air incorporated                      d. Canned food	2	2	2
d)	Describe the various factors on which efficiency of plasma treatment depends against contamination.	2	6	2
e)	Discuss the problems associated with conventional grinding process.	2	1	2
f)	Under the concept of hurdle technology, which substances are recommended to reduce water activity ( $a_w$ )?	2	3	1
<b>Q. 2</b>	Define Pulse electric field (PEF). Explain the major factors that influence PEF performance to inactivate microorganisms	8	5	3
<b>Q. 3</b>	Illustrate the use of ultrasound method in combination with other treatments for improving inactivation efficacy	8	4	3

<b>Q. 4</b>	Illustrate the food applications of cold plasma treatment in detail.	8	6	4
<b>Q. 5</b>	Define the concept of hurdle technology along with their need and categorize potential hurdles used in food preservation with suitable example. <b>(OR)</b>	8	3	4
<b>Q. 5</b>	Draw a process flow diagram of supercritical extraction unit with suitable labeling	8	4	4
<b>Q. 6</b>	Distinguish between traditional and cryogenic grinding system. Enlist general application areas of cryogenic grinding. <b>(OR)</b>	8	6	5
<b>Q. 6</b>	Distinguish between supercritical fluid extraction and pressurized liquid extraction technology.	8	4	5