[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 9253 **J**

Unique Paper Code : 2203032001

Name of the Paper : Novel Food Processing Technology

Name of the Course : **B.Sc. (H) Food Technology (NEP-UGCF)**

Semester : IV (DSE)

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. **All** parts of the same questions should be attempted together.
3. Attempt **four** questions in all.
4. Question No. **1** is compulsory.
5. **All** questions carry equal marks.

1. Give one word for the following : (1.5×10=15)

   (i) Technology that applies low temperatures to remove water from food by sublimation

   (ii) The process of applying ozone gas for food preservation is called

   (iii) The combination of sound energy and thermal treatment applied to food product is known as

   (iv) Ohmic heating is sometimes also termed as

   (v) SSP in hurdle stands for

(vi) Non-thermal processing method that involves use of ionised gas for cleaning surface

(vii) The term used to indicate resistance of microorganism to high pressure

(viii) The wavelength range of UV radiation commonly used in food industry

(ix) Formation of voids or pores by electric pulse is called

(x) DBD stands for

2. (a) What are pulsed electric fields (PEF)? Explain the mechanisms of microbial inactivation by PEF with labelled diagram (8)

(b) Discuss the working principle of microwave oven with the help of a well-labelled schematic diagram. (7)

3. Differentiate between : (5×3=15)

(a) Cold plasma technology and Ozone treatment

(b) Irradiation and E-beam

(c) Microwave and Dielectric Heating

4. (a) Explain the principle of high-pressure processing (HPP) and its effect on food quality. (8)

(b) Discuss the mechanism of ohmic heating highlighting its application in food industry. (7)

5. (a) Explain the principle of hurdle technology with relevant examples. (7)

(b) Why should ultrasonic food processing technology be adopted from an environmental perspective? Justify with relevant applications in food processing sector. (8)