



**SRM VALLIAMMAI ENGINEERING COLLEGE**

(An Autonomous Institution)  
SRM Nagar, Kattankulathur – 603203.



**DEPARTMENT OF MEDICAL ELECTRONICS**

**QUESTION BANK**



**V SEMESTER**

**1910504 - PRINCIPLES OF FOOD PRESERVATION**

**Regulation – 2019**

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*Prepared by*

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**DEPARTMENT OF MEDICAL ELECTRONICS**

**1910504 – Principles of Food Preservation**

**Question Bank**

**V Semester**

**UNIT – I: FOOD PRESERVATION AND ITS IMPORTANCE**

Introduction to food preservation, Wastage of processed foods; Shelf life of food products; Types of food based on its perishability, Traditional methods of preservation.

**PART – A**

<b>Q. No.</b>	<b>Questions</b>	<b>BT Level</b>	<b>Competence</b>
1.	Name the sources of food.	BTL 1	Remembering
2.	What are the classifications of carbohydrates?	BTL 4	Analyzing
3.	List the types of food nutrition.	BTL 1	Remembering
4.	Describe the term antioxidants.	BTL 1	Remembering
5.	Write notes on food preservation principles.	BTL 1	Remembering
6.	Give the factors that affects the storage stability of food.	BTL 1	Remembering
7.	Refer the methods to deactivation of microbes in food using electricity.	BTL 2	Understanding
8.	Define the salting procedure.	BTL 2	Understanding
9.	Which foods have the shortest shelf life?	BTL 3	Applying
10.	State the role of Air and dust in food spoilage.	BTL 3	Applying
11.	Find out the preventive measures of food borne infections.	BTL 4	Analyzing
12.	How can we classify the food on the basis of perishability?	BTL 3	Applying
13.	Discuss the examples of perishable crops.	BTL 3	Applying
14.	Point out the major waste in food processing.	BTL 4	Analyzing
15.	Prepare the solutions to food waste.	BTL 4	Analyzing

16.	Demonstrate how supermarkets deal with expired food.	BTL 3	Applying
17.	How do you determine the shelf life of a food product?	BTL 2	Understanding
18.	Define aerobic microorganisms.	BTL 2	Understanding
19.	Show the difference between the terms food waste and food loss.	BTL 3	Applying
20.	Analyze the importance of food waste management.	BTL 4	Analyzing
21.	Define shelf life of food.	BTL 1	Remembering
22.	Examine the different methods of food preservation.	BTL 4	Analyzing
23.	Write few words on high pressure food preservation.	BTL 2	Understanding
24.	How does food spoilage occur?	BTL 2	Understanding

<b>Q. No.</b>	<b>PART B</b>	<b>BT Level</b>	<b>Competence</b>
1.	Describe the preventive measures to minimize the wastage of foods. (13)	BTL 1	Remembering
2.	Interpret the main causes of quality deterioration and spoilage of foods. (13)	BTL 3	Applying
3.	Examine the following food preservation methods (i)chemical (4) (ii)biological (4) (iii)physical (5)	BTL 3	Applying
4.	(i)Classify foods according to their pH. (7) (ii)Explain the significance of this classification. (6)	BTL 4	Analyzing
5.	Explain the importance of the number and kind of microorganisms initially present in foods intended to be preserved. (13)	BTL 2	Understanding
6.	Measure the factors affecting (i)Ante mortem (6) (ii) Postmortem biochemical changes. (7)	BTL 2	Understanding
7.	Write about the primary sources of microorganisms in foods. (13)	BTL 2	Understanding
8.	Summarize the notes on the factors affecting microbial growth in food. (13)	BTL 2	Understanding

9.	Explain the preservation technique using salt and sugar with example. (13)	BTL 3	Applying
10.	(i) Describe the shelf-life of food products. (6) (ii) List the application on various shelf life food. (7)	BTL 1	Remembering
11.	Interpret the procedure of processed foods wastage are removed without affecting environment. (13)	BTL 3	Applying
12.	(i) Define water activity. (5) (ii) Explain the relationship of water activity with food spoilage. (8)	BTL 1	Remembering
13.	i) Discuss how microorganisms are important in food processing. (7) ii) Explain the primary sources of microorganisms in food (6)	BTL 4	Analyzing
14.	Identify the commonly used methodologies to determine foods' shelf life. (13)	BTL 4	Analyzing
15.	Describe the causes and effects of food wastage on economy and environment. (13)	BTL 1	Remembering
16.	(i) Discuss on how microbial contamination spoils food (7) (ii) Explain what happens during chemical deterioration of food (6)	BTL 1	Remembering
17.	Categorize and explain the different heat treatment methods	BTL 4	Analyzing

Q. No.	PART C	BT Level	Competence
1.	Describe the scope and benefit of industrial food preservation. (15)	BTL 2	Understanding
2.	Discuss the following with examples and its applications i) Perishable foods ii) Nature of Semi-Perishable foods iii) Non-perishable foods (15)	BTL 2	Understanding
3.	Write short notes on the conditions for (i) Distribution (5) (ii) Storage and (5) (iii) Sanitation of food products. (5)	BTL 1	Remembering

4.	Outline the processing steps involved on Traditional methods of preservation. (15)	BTL 3	Applying
5.	Define the term food and analyze in detail about fresh foods and processed foods. (15)	BTL 4	Analyzing

## UNIT – II: METHODS OF FOOD HANDLING AND STORAGE

Nature of harvested crop, plant and animal; storage of raw materials and products using low temperature, refrigerated gas storage of foods, gas packed refrigerated foods, sub atmospheric storage, Gas atmospheric storage of meat, grains, seeds and flour, roots and tubers; freezing of raw and processed foods. Retort pouch packing, Aseptic packaging.

### PART – A

Q. No.	Questions	BT Level	Competence
1.	Define Shrink Packaging.	BTL 1	Remembering
2.	State the principles of weighing.	BTL 1	Remembering
3.	What is active packaging system?	BTL 1	Remembering
4.	Write a short note on rigid packaging.	BTL 1	Remembering
5.	Compare nature tendency of harvested crop and animal.	BTL 2	Understanding
6.	Differentiate between CO <sub>2</sub> and food grade CO <sub>2</sub> .	BTL 4	Analyzing
7.	Why do you need to preserve raw materials?	BTL 2	Understanding
8.	Point out the nature of proteins in fleshy foods.	BTL 3	Applying
9.	Write details on the laws and regulations of packaging.	BTL 4	Analyzing
10.	Specify packaging material needed for meat.	BTL 4	Analyzing
11.	Give a brief note on packaging requirements for beverages.	BTL 4	Analyzing
12.	Which gas is filled in food packets and why?	BTL 1	Remembering
13.	Demonstrate the use of Semi rigid packaging.	BTL 3	Applying
14.	Discuss on retort pouch packaging method.	BTL 2	Understanding

15.	Analyze the various factors for choosing a packaging material for grains, seeds and flour.	BTL 4	Analyzing
16.	State the term Maximum deceleration at cushion.	BTL 2	Understanding
17.	Identify the condition to protect Insect Infestation during packaging.	BTL 2	Understanding
18.	Examine the ways of temperature control by packaging.	BTL 3	Applying
19.	List few methods for measuring permeability.	BTL 3	Applying
20.	Draw the mechanical behavior of three types of cushioning materials.	BTL 3	Applying
21.	Define the term Aseptic packaging.	BTL 1	Remembering
22.	How freezing is used in food preservation and storage?	BTL 4	Analyzing
23.	Interpret the significance of hypobaric storage for fruits and vegetables.	BTL 2	Understanding
24.	Enumerate any four steps to handle food safely.	BTL 3	Applying

**PART – B**

Q. No.	Questions	BT Level	Competence
1.	Write short notes on the normal behavior of the following (i) Plant tissues (4) (ii) Animal tissue and (4) (iii) Non-tissue foods stored at chilling temperature. (5)	BTL 1	Remembering
2.	(i) Enlist the adjuncts to chilling temperature in storage of Foods. (6) (ii) Point out the importance of each adjunct. (7)	BTL 1	Remembering
3.	(i) Describe the methods of freezing foods. (7) (ii) Explain the criteria of selection of a method for particular food. (6)	BTL 1	Remembering
4.	Examine the nature of harvested crop, plant and animal in the environment. (13)	BTL 1	Remembering
5.	i) Summarize about labeling of food products after packaging. (7) ii) How will you choose a packaging material for eggs? (6)	BTL 2	Understanding
6.	Classify the various types of packaging methods and discuss in detail. (13)	BTL 4	Analyzing

7.	Illustrate in detail about the enzymatic action of (i). Post-harvest foods. (7) (ii). Post mortem foods. (6)	BTL 3	Applying
8.	Outline the storage requirements for raw materials and products using low temperature. (13)	BTL 3	Applying
9.	(i) Give a detailed account on packaging requirements (7) (ii) Find the materials needed for confectionaries. (6)	BTL 4	Analyzing
10.	Discuss about environmental insanitation due to packaging materials. (13)	BTL 4	Analyzing
11.	Elaborate gas atmospheric storage of roots and tubers. (13)	BTL 2	Understanding
12.	(i) Describe raw and processed foods. (6) (ii) Point out the packaging requirements for fresh fruits and vegetables. (7)	BTL 4	Analyzing
13.	Identify the aspects involved in Retort pouch packing. (13)	BTL 3	Applying
14.	(i) Write a short note on rigid packaging. (6) (ii) Enumerate the effect of packaging on food product. (7)	BTL 2	Understanding
15.	Discuss briefly on the following: i) Aseptic packaging (6) ii) Retort pouch packing (7)	BTL 1	Remembering
16.	What is chilling? How can food be preserved by chilling technique? (13)	BTL 2	Understanding
17.	Summarize the factors affecting post harvest food quality (13)	BTL 3	Applying

<b>PART – C</b>			
<b>Q.No</b>	<b>Questions</b>	<b>BT Level</b>	<b>Competence</b>
1.	Discuss the following terms (i). Vacuum packaging. (5) (ii). Gas packaging (5) (iii). Shrink Packaging (5)	BTL 2	Understanding
2.	Formulate the properties and characteristics of materials that determine the degree of protection against environmental factors. (15)	BTL 3	Applying

3.	Explain with suitable examples (i) Refrigerated gas storage of foods (8) (ii) Gas packed refrigerated foods. (7)	BTL 1	Remembering
4.	Write an essay on grain storage and distribution system in India and Tamil Nadu. (15)	BTL 2	Understanding
5.	Describe in detail with a neat block diagram the role of gas atmospheric storage for grains and meat. (15)	BTL 4	Analyzing

### UNIT III THERMAL METHODS

Newer methods of thermal processing; batch and continuous; In container sterilization canning; Application of infra-red microwaves; ohmic heating; control of water activity; preservation by concentration and dehydration; osmotic methods.

#### PART A

Q.No	Questions	BT Level	Competence
1.	Define thermal processing.	BTL 1	Remembering
2.	Give the low temperature processing methods.	BTL 1	Remembering
3.	Point out the thermal applications on food preservation.	BTL 4	Analyzing
4.	Describe the food preservation by use of preservatives.	BTL 4	Analyzing
5.	List the applications of ohmic system preservation.	BTL 1	Remembering
6.	What is water activity and its role in food?	BTL 1	Remembering
7.	State canning process.	BTL 2	Understanding
8.	Name the newer methods of thermal processing.	BTL 2	Understanding
9.	Discuss on Pasteurization process and its uses.	BTL 2	Understanding
10.	Identify an example of osmotic pressure.	BTL 2	Understanding
11.	Mention the effect of low temperatures on food.	BTL 3	Applying
12.	How will you preserve food by lowering pH?	BTL 3	Applying
13.	Choose the application of pH on food preservation.	BTL 3	Applying
14.	Analyze the process of sterilization and its importance.	BTL 4	Analyzing
15.	State pervaporation process.	BTL 4	Analyzing
16.	Analyze blanching process.	BTL 4	Analyzing
17.	Mention the methods of preservation of fish.	BTL 4	Analyzing
18.	Distinguish between pasteurizations and homogenization.	BTL 3	Applying
19.	How do you adjust osmotic pressure?	BTL 3	Applying



20.	Give an account on freeze drying and freeze concentration.	BTL 3	Applying
21.	Why should thermal processing of food be done?	BTL 1	Remembering
22.	List out the factors affecting the heat resistance of microorganism.	BTL 2	Understanding
23.	Enlist the various advantages of osmotic dehydration process.	BTL 1	Remembering
24.	State the principle of osmosis.	BTL 2	Understanding
<b>PART B</b>			
1.	(i)What are the disadvantages of blanching? (7) (ii)How can these disadvantages be minimized? (6)	BTL 1	Remembering
2.	Describe the improved general method for thermal process evaluation. (13)	BTL 1	Remembering
3.	(i) Explain the term commercial sterilization of foods. (7) (ii) Mention the factors on which thermal conditions needed to produce commercial sterility depends. (6)	BTL 4	Analyzing
4.	Write an essay on problems in packaging dehydrated foods. (13)	BTL 1	Remembering
5.	Describe the preservation technique by infrared microwave with example. (13)	BTL 2	Understanding
6.	Examine the recent thermal methods in preservation with examples. (13)	BTL 2	Understanding
7.	Distinguish the heat processing method by (i) Dielectric, (4) (ii) Ohmic and (4) (iii) Infrared heating. (5)	BTL 3	Applying
8.	Explain the interaction of water with food components. (13)	BTL 3	Applying
9.	Compare high temperature heat processing methods with low temperature heat processing methods. (13)	BTL 1	Remembering
10.	Write the properties of air-water mixtures. (13)	BTL 2	Understanding
11.	Illustrate the processes and estimation of humidity in the psychometric chart. (13)	BTL 4	Analyzing
12.	Compare the steady state operation of energy and material balance on an air dryer. (13)	BTL 4	Analyzing
13.	Classify the different types and processing of breakfast cereals with examples. (13)	BTL 3	Applying

14.	(i) Differentiate sterilization and canning. (7) (ii) Explain its types and effects on fruits. (6)	BTL 4	Analyzing
15.	Write briefly on the techniques which prevent food spoilage due to water activity. (13)	BTL 1	Remembering
16.	Write short notes on the following thermal food processing methods: i) Blanching. (7) ii) Pasteurization. (6)	BTL 2	Understanding
17.	Explain the mechanism of ohmic heating along with its advantages and disadvantages. (13)	BTL 3	Applying

<b>PART – C</b>			
<b>Q.No</b>	<b>Questions</b>	<b>BT Level</b>	<b>Competence</b>
1.	Explain the following. (i) Draw a flowchart on canning process with example. (8) (ii) Effect of nutrients during blanching. (7)	BTL 2	Understanding
2.	(i) Derive the calculating osmotic pressure equations. (8) (ii) The osmotic pressure of a potassium chloride solution (at 300K) is 50 atmospheres. What is the molar concentration of potassium chloride in this solution? (7)	BTL 3	Applying
3.	Derive the required equations for equilibrium relations in Air–Water Mixtures. (15)	BTL 1	Remembering
4.	Give a detail account on the method of preparation of the following: (i) Chocolate (5) (ii) Candies (5) (iii) Marshmallows (5)	BTL 4	Analyzing
5.	Explain the term dehydration in food preservation and write briefly on the different drying techniques used for preservation. (13)	BTL 2	Understanding

#### **UNIT IV DRYING PROCESS FOR TYPICAL FOODS**

Rate of drying for food products; design parameters of different type of dryers; properties of air-water mixtures. Psychometric chart, freezing and cold storage, freeze concentration, dehydro-freezing, freeze drying, IQF; calculation of refrigeration load, design of freezers and cold storages

<b>PART A</b>			
<b>Q. No</b>	<b>Questions</b>	<b>BT Level</b>	<b>Competence</b>
1.	List the potential food processing technologies.	BTL 2	Understanding
2.	What is load in refrigeration?	BTL 1	Remembering
3.	Describe the design parameters of different type of dryers.	BTL 2	Understanding
4.	How does IQF freezer work?	BTL 1	Remembering
5.	Mention the advantage of vacuum cooling.	BTL 4	Analyzing
6.	Write short notes on Precooling with Ice or Ice–Slush.	BTL 2	Understanding
7.	Define food quality.	BTL 1	Remembering
8.	State dehydration process.	BTL 1	Remembering
9.	Mention the applications of cold storage methods.	BTL 2	Understanding
10.	Identify the applications of freezing methods.	BTL 4	Analyzing
11.	Write the principle of drying method with its application.	BTL 3	Applying
12.	State the term concentration.	BTL 3	Applying
13.	Find the role of mixing in food industries.	BTL 3	Applying
14.	Define Freeze concentration technique.	BTL 2	Understanding
15.	Brief membrane concentration method with example.	BTL 1	Remembering
16.	Explain the changes in food quality by concentration methods with example.	BTL 3	Applying
17.	Define precooling.	BTL 4	Analyzing
18.	Illustrate on Thermal concentration technique.	BTL 3	Applying
19.	Distinguish between IQF and cold store freezing.	BTL 4	Analyzing
20.	Analyze the main advantages of an IQF system.	BTL 4	Analyzing
21.	Define the terms dry bulb and wet bulb temperature.	BTL 1	Remembering
22.	List out the different properties of Psychrometry.	BTL 2	Understanding
23.	Write short notes on sun drying and the various disadvantages associated with it.	BTL 2	Understanding
24.	Point out the advantages of vacuum drying.	BTL 4	Analyzing
<b>PART B</b>			
1.	Explain the principles of freeze concentration and equipment used for this purpose. (13)	BTL 4	Analyzing
2.	i) Compose the applications of microwave energy to freeze drying. (7)	BTL 4	Analyzing

	ii) Find out the major reasons for its failure. (6)		
3.	(i) Discuss the problem of shrinkage of foods during drying. (6) (ii) Suggest ways of overcoming this problem. (7)	BTL 1	Remembering
4.	Explain the mechanism of Vapor Absorption System. (13)	BTL 4	Analyzing
5.	(i) How will you calculate a cooling load? (6) (ii) Describe cold storage system. (7)	BTL 1	Remembering
6.	Explain the principle of size reduction and its equipment with neat diagram. (13)	BTL 1	Remembering
7.	Give the unit operations involved in food processing of (i) Milk (6) (ii) Manufacture of fruit juice. (7)	BTL 3	Applying
8.	Write down the properties of refrigerants and their uses on food products. (13)	BTL 1	Remembering
9.	(i) Describe solar equipments. (7) (ii) How solar energy is more economical? (6)	BTL 2	Understanding
10.	Illustrate the three quality aspects of dehydrated materials. (13)	BTL 3	Applying
11.	Explain the applications and the use of solar energy in various fields. (13)	BTL 2	Understanding
12.	Assess the vapor pressure of ice as a function of temperature in sublimation during freeze-drying. (13)	BTL 4	Analyzing
13.	Express the coupling of heat and mass transfer equations in Freeze-drying. (13)	BTL 2	Understanding
14.	(i) What is mixing index? (5) (ii) Explain mixing of solids, pastes and dry powders. (8)	BTL 3	Applying
15.	Describe the principle of freeze concentration along with its advantages, disadvantages and applications. (13)	BTL 1	Remembering
16.	What is freeze drying? Explain the process of freeze drying in detail. (13)	BTL 2	Understanding
17.	Explain the design of air blast freezers along with its types (13)	BTL 3	Applying

	<b>PART – C</b>		
<b>Q.No</b>	<b>Questions</b>	<b>BT Level</b>	<b>Competence</b>

1.	(i) Describe the product physiological characteristics of Fruits, Vegetables, Animal Tissues, milk, eggs . (8) (ii) How manufactured foods which influence the selection of conditions used for chilling storage. (7)	BTL 1	Remembering
2.	Summarize the effects of Radiation on Living Organisms and impact on resulting food. (15)	BTL 4	Analyzing
3.	(i) Draw water absorption apparatus for removal of carbon dioxide. (5) (ii) Explain the methods for establishing and controlling the concentration of carbon dioxide during CA Storage. (10)	BTL 2	Understanding
4.	Formulate the cooling load calculations and principles used in emerging food technology. (15)	BTL 3	Applying
5.	List out the factors for selection of dryers and write short notes on any five dryers. (15)	BTL 2	Understanding

### UNIT – V: NON-THERMAL METHODS

Super Critical Technology for Preservation - Chemical preservatives, preservation by ionizing radiations, ultrasonics, high pressure, fermentation, curing, pickling, smoking, membrane technology. Hurdle technology.

#### PART – A

Q. No.	Questions	BT Level	Competence
1.	Mention the role of food additives and preservatives in product development.	BTL 1	Remembering
2.	Write the names of chemical preservatives.	BTL 1	Remembering
3.	State the term ultrasonic.	BTL 1	Remembering
4.	What is the difference in pickling and fermenting?	BTL 1	Remembering
5.	Elaborate fermentation process.	BTL 2	Understanding

6.	Describe the advantages of fermentation.	BTL 4	Analyzing
7.	Discriminate solid state and liquid state fermentation.	BTL 2	Understanding
8.	Identify the applications of high-pressure processing techniques.	BTL 3	Applying
9.	Define Electro osmosis.	BTL 4	Analyzing
10.	Select the applications of infrared heating preservation.	BTL 4	Analyzing
11.	How Ultrafiltration can be differentiated from reverse osmosis?	BTL 4	Analyzing
12.	State the pulsed electric field processing.	BTL 1	Remembering
13.	Demonstrate the applications of ultrasound processing with example.	BTL 3	Applying
14.	Differentiate thermo osmosis and pervaporation.	BTL 4	Analyzing
15.	Illustrate how hurdle technology is used in food preservation.	BTL 3	Applying
16.	Find out the similarities and differences of smoked salt and pickling.	BTL 2	Understanding
17.	How should marinates be prepared?	BTL 2	Understanding
18.	Demonstrate the process of pickling.	BTL 3	Applying
19.	Define membrane technology in food processing.	BTL 3	Applying
20.	List the advantages of hurdle technology.	BTL 3	Applying
21.	State the term cold pasteurization.	BTL 1	Remembering
22.	Summarize the function of anti-ripening agents.	BTL 2	Understanding
23.	Classify the types of food preservatives with example.	BTL 4	Analyzing
24.	Why only CO <sub>2</sub> is used as a super critical fluid?	BTL 2	Understanding

**PART – B**

Q. No.	Questions	BT Level	Competence
1.	Describe the effect of radiation on (i) Microorganisms (6) (ii) Insect (7)	BTL 1	Remembering
2.	Explain the principle of hurdle technology as applied to foods. (13)	BTL 4	Analyzing
3.	Discuss the role of microorganisms in preservation of foods.	BTL 1	Remembering

	(13)		
4.	Discriminate the physical, chemical and biological changes by radiation. (13)	BTL 1	Remembering
5.	Write short notes on processing of food products using (i) Pulsed light (6) (ii) Ultrasound (7)	BTL 2	Understanding
6.	List out the physical and chemical properties of lipids and oils and explain in detail. (13)	BTL 2	Understanding
7.	Examine the principles and physicochemical effects of high-pressure processing treatments. (13)	BTL 3	Applying
8.	Explain briefly on the following preservation methods: (i) salting (3) (ii) brining (3) (iii) curing (3) (iv) drying (2) (v) pickling (2)	BTL 3	Applying
9.	Distinguish the categories of the following membranes functional transport process properties. i)Porous Membranes (4) ii)Solution” Membranes (4) iii)Ion-Exchange Membranes (5)	BTL 4	Analyzing
10.	Analyze and write short notes on the use of fermentation process as a preservation tool. (13)	BTL 4	Analyzing
11.	Interpret the marinating process methods for food preparation. (13)	BTL 4	Analyzing
12.	Measure the factors influencing drying of vegetables in the food processing technology. (13)	BTL 3	Applying
13.	(i)Write down the chemical changes in natural pigments during processing. (7) (ii)How do processing methods bring out changes during baking? (6)	BTL 1	Remembering
14.	(i)Describe browning reactions. (5) (ii)Explain the reactions involved in enzymatic and non-enzymatic browning. (8)	BTL 2	Understanding
15.	Write brief notes on super critical technology for preservation of food. (13)	BTL 1	Remembering
16.	Explain briefly about chemical preservatives and its types along with examples. (13)	BTL 2	Understanding

17.	Write short notes on high pressure processing along with its advantages and applications. (13)	BTL 3	Applying
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<b>PART – C</b>			
<b>Q.No</b>	<b>Questions</b>	<b>BT Level</b>	<b>Competence</b>
1.	Discuss the following : i) Properties of Ionizing Radiations (4) ii) High-Energy Electrons (4) iii) Dosimetry of Ionizing Radiations (4) iv) Chemical Effects of Ionizing Radiations (3)	BTL 2	Understanding
2.	i) Elaborate the mechanism of Inactivation of Microorganisms by Ultrasound (8) ii) Write the applications of Ultrasound in Food Technology. (7)	BTL 2	Understanding
3.	i) Design schematic representation for generation of pulsed high-intensity electric fields with exponential voltage decay (8) ii) Illustrate the food flow schematic representation in a PEF process on Microorganisms. (7)	BTL 3	Applying
4.	(i) Describe on the aspects of hurdle technology and its types. (8) (ii) List the applications of hurdle technology in different products such as dairy, fruits & vegetables and meat & meat products. (7)	BTL 1	Remembering
5.	Explain in detail the following food preservation techniques: (i) Curing (6) (ii) Pickling (4) (iii) Smoking (5)	BTL 4	Analyzing