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B. Tech. - M. Tech. (DUAL) (BIOTECHNOLOGY)

NINTH SEMESTER EXAMINATION, 2010-11

FOOD TECHNOLOGY

Time : 3 Hours

Total Marks : 100

- Note :** (i) Attempt any **FIVE** questions.
(ii) Marks are indicated against each question.

1. (a) The time of heating at a temperature to cause 90% reduction in count of viable spores is called: **2 x 10 = 20**
- (i) D-value (ii) F-value (iii) Z-value
(iv) Lethal rate
- (b) Heating of the frozen food is termed as:
- (i) Dehydrofreezing (ii) Freeze drying
(iii) Reheating (iv) None
- (c) Storage of food under reduced pressure is called:
- (i) Aseptic storage (ii) Hyperbaric storage
(iii) Hypobaric storage (iv) All
- (d) Death of bacteria follows:
- (i) Zero order reaction (ii) First order reaction
(iii) Second order reaction (iv) None
- (e) Indicator organisms are:
- (i) Coliforms
(ii) Pathogenic bacteria
(iii) Fungus
(iv) None

- (f) Lactic acid fermentation does not produce
- | | |
|-----------------------|-------------------------------|
| (i) ATP | (ii) CO ₂ and NADH |
| (iii) CO ₂ | (iv) NADH |
- (g) Which one preservation method has the lowest energy requirements
- | | |
|----------------------|-------------|
| (i) Freezing | (ii) Drying |
| (iii) Pasteurization | (iv) None |
- (h) What is Ultra heat preservation?
- (i) Type of pasteurization
 - (ii) Inactivation of enzymes by irradiation
 - (iii) Type of sterilization
 - (iv) None
- (i) Condition of toughening of muscle of meat after slaughtering of animal is called:
- | | |
|-----------------------|-------------------|
| (i) Rigor toughening | (ii) Rigor mortis |
| (iii) Rigor hardening | (iv) None |
- (j) For the artificial tenderization of muscles, which of the following could be source of the enzyme?
- | | |
|------------|----------------|
| (i) Papaya | (ii) Pineapple |
| (iii) Fig | (iv) All |

2. (a) Which major group of microbes are used in various types of fermentation process? 4 x 5 = 20
- (b) Describe the process of cheese production.
- (c) How fermentation is important in our day to day life?
- (d) How curd is formed?
- (e) Write different fermented vegetables products and microorganisms involved.

3. (a) Describe various types of cans used in food packaging.
(b) Enlist the types of spoilage of canned food by micro organisms.
4. Write short notes on any **Four** of the following: 5 x 4 =
(a) Probiotics
(b) Membrane Plate count
(c) Irradiation preservation
(d) Preparation and management of starter culture
(e) Contribution of Louis Pasteur to Food Science
5. (a) What are the different criteria involved in the implementation HACCP in food Industry?
(b) Comment on the causal organism, symptoms and prophylactic measures of any three food borne bacterial diseases.
6. Write short notes on any **Four**: 5 x 4 =
(a) Microbial spoilage of raw meat
(b) Enumeration of metabolically injured microorganism
(c) Different food quality laws and standards in India
(d) Food adulteration and contamination
(e) Antimicrobial systems present in milk
7. (a) Write in detail the future and prospect of Food processing sector in India and its role and contribution in the nation's economy.
(b) What are the major factors which influence the microbial load in food?

