

**Ph.D IN DAIRY SCIENCE AND TECHNOLOGY
(PHDDR)**

Term-End Examination

December, 2014

RDR-010 : DAIRY AND FOOD MICROBIOLOGY

Time : 3 hours

Maximum Marks : 100

*Note : Attempt **any five** questions. All questions carry equal marks.*

1. (a) Explain importance of micro organism in milk and milk products with the help of examples. **10**
- (b) Describe the factors affecting microbial growth and quality of foods. **10**

2. Describe principles of important operational factors of various emerging processing technologies and their application in milk and milk products. **20**

3. Describe the essential features of Active Packaging, MAP, CAP and Nano - Packaging. **20**

4. Differentiate between food infection and food poisoning. Describe in detail the staphylococcal food poisoning. Also suggest some measures to prevent it. **20**

5. (a) Explain the mechanism of flavour production in fermented dairy products. 10
- (b) Characterize important changes taking place during preparation and ripening of cheddar cheese. 10
6. (a) Explain important safety assessment protocols for probiotic cultures used in fermented dairy products. 10
- (b) Reflect on microbiological quality of important indigenous dairy products. 10
7. Write short notes on : 20
- (a) Temperature co-efficient Q₁₀.
- (b) Salmonellosis.
- (c) Spoilage of canned foods.
- (d) 12D concept in heat processing of foods.
- (e) Bacteriocins in bio-preservation of foods.
- (f) Maturation phase in penicillin production.
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