

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

Term-End Examination

June, 2015

RDR-010 : DAIRY AND FOOD MICROBIOLOGY

Time : 3 hours

Maximum Marks : 100

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

1. Describe the various physical factors which affect microbial growth and describe their impact on shelf life and spoilage of food. 20

2. Describe the various microbiological defects of butter, their causative agents and control measures. 20

3. Describe the following :
 - (a) HACCP concept and its principles 10
 - (b) Botulism and staphylococcal gastroenteritis 5+5

4. (a) Give the symbiotic relationship between yoghurt culture organisms. 10
- (b) Discuss the microbiology of Kefir grains. 10
5. (a) Explain the role of non-starter bacteria in cheese ripening. 10
- (b) Discuss the microbiology of mold ripened cheeses. 10
6. Describe the novel technologies for packaging to achieve extension of the shelf life of foods. 20
7. (a) Discuss the different methods for preservation of starter cultures. 10
- (b) Describe galactose metabolism of Lactic Acid Bacteria. 10
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