

**Ph.D. IN DAIRY SCIENCE AND TECHNOLOGY  
(PHDDR)****Term-End Examination****December, 2015****RDR-010 : DAIRY AND FOOD MICROBIOLOGY***Time : 3 hours**Maximum Marks : 100*

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

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1. Describe various chemical factors which affect microbial growth and describe their impact on shelf life and spoilage of foods. **20**
2. Describe various thermal technologies used for treatment of fluid milk and dairy products. **20**
3. Discuss various microbiological defects of pasteurised milk and condensed milk, their causative agents and control measures. **20**
4. (a) Explain the Tagatose pathway for Lactose Utilization by Lactic Acid bacteria. **10**  
(b) Describe lactococcal plasmids and their importance. **10**
5. (a) How genetic interventions can be used to improve the technological and functional attributes dairy starter cultures. **10**  
(b) Suggest measures of phage control in Dairy Industry. **10**

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| 6.  | Explain the concepts of food toxicology and newly emerging food pathogens. | 20 |
| 7.  | Describe the following :   |    |
| (a) | HACCP concept and its implementation                                       | 10 |
| (b) | Concept of risk profiling and risk management                              | 10 |
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