

Term End Examination-2014
Ph.D. in Dairy Science and Technology
RDR-006: Dairy Byproducts Technology and Processing

Time: Three Hours

MM: 100

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

1. Enumerate important dairy byproducts. Give their composition and nutritive value. Describe the current trends in processing and utilization of dairy products. 20
2. Explain different types of membrane processes? How efficiency of a membrane process is determined? Give the technical details of ultra-filtration process and its application in dairy industry. 20
3. What is membrane fouling? Explain the precautions and treatments for minimizing membrane fouling. Describe cleaning and sanitization of different types of membrane systems. 20
4. Describe functional properties of whey protein concentrates and casein and their role and importance in formulation of functional and special foods? 20
- 5 (a) Describe the advantages and disadvantages of different types of membranes used in membrane processing. 10
- 5 (b) Explain different configuration of membrane and their respective uses. 10
6. Explain the principal and operational steps involved in industrial preparation of food grade lactose and casein. 20
7. Answer **any four** of the following: 20
 - 1) Difference between concentration, polarization and fouling.
 - 2) Disinfection chemicals and storage chemicals
 - 3) Co-precipitates
 - 4) UF retentant
 - 5) Water holding properties of milk proteins
 - 6) Modeling of membrane processes.