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RDR-103

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

Term-End Examination

Dec., 2021

RDR-103 : ADVANCES IN DAIRY TECHNOLOGY

Time : 3 Hours

Maximum Marks : 100

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

1. Explain the physico-chemical and nutritional properties of milk. Comment on the present status of preservation of raw milk. 12, 8
2. Narrate the factors affecting spoilage of food. Define UHT system and give the properties of UHT processed milk products. Write a short note on retort processing. 7, 8, 5

3. Write the principles of bactofugation and bacto-therm processes. What do you understand by microfluidization and homogenization of milk ? Give their applications in dairy industry. 5, 5, 10
4. Give the heat classification and functional properties of milk powder. Define freeze concentration and freeze dehydration. Explain the physico-chemical changes that take place during freeze dehydration of food. 10, 4, 6
5. List the membrane techniques used in food industry. What are the different types of membranes and their properties ? Narrate the applications of membrane system in dairy industry. 3, 7, 10
6. Give the principles and applications of high pressure processing and pulsed electric field processing in dairy industry. 20
7. Define and classify formulated foods. Give their nutritional aspects. Write notes on dairy analogues and imitation dairy products. 5, 5, 10

P. T. O.

[3]

8. Write short notes on any *four* of the following :

5 each

- (a) Sanitization of dairy equipment
- (b) Food additives
- (c) Active packaging
- (d) Flavour analysis of food
- (e) Food contaminants
- (f) Supercritical fluid extraction