

B. Voc. (Food Processing and Preservation)
First Semester
FPP-105: Dairy Science and Technology

Time allowed: 3 Hours

Max. Marks: 40

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

x-x-x

I. Attempt the following:-

- a) Effluent treatment of dairy plant.
- b) What is the significance of the development of transgenic dairy animals in the dairy industry?
- c) Explain the importance of understanding the nutrient requirements of different dairy animals in feed formulation.
- d) Highlight the role of Operation Flood in the dairy sector. (4x2)

UNIT - I

- II. a) Describe the quality parameters used in grading milk.
b) Explore the criteria that determine milk quality and how these standards are applied in the dairy industry. (3,5)
- III. Examine the diverse types of market milk, including TM (Toned Milk), DTM (Double Toned Milk), SPM (Standardized Pasteurized Milk), RRM (Reconstituted Ready-to-Drink Milk), and fortified milk. Discuss the unique characteristics and nutritional benefits. (8)

UNIT - II

- IV. Explore common diseases affecting dairy animals, categorizing them into bacterial, viral, and fungal infections. Elaborate on preventive measures, including vaccination and deworming, and their role in disease control (4,4)
- V. In detail, explain the comprehensive care and management practices for different categories of dairy animals, including newborns, milch cows, pregnant animals, bulls, and sick animals. (8)

P.T.O.

UNIT - III

VI. Discuss in detail the manufacturing processes involved in producing dairy products such as yogurt and milk powder. Highlight the key equipment used in these processes and how they contribute to the quality and efficiency of the final product. (4,4)

VII. Explore the manufacturing considerations for dairy byproducts, including whey concentrate and casein. How are these byproducts utilized? (8)

UNIT - IV

VIII. Evaluate the current status of dairy development in India, considering factors such as milk production, infrastructure, and market trends. Discuss the challenges and opportunities in the dairy sector and outline potential future prospects. (4,4)

IX. Investigate the roles of prominent dairy development organizations such as NDRI (National Dairy Research institute), IVRI (Indian Veterinary Research Institute), and Amul in shaping and promoting dairy development. Highlight their contributions in research, technology transfer. (8)