



B.E. / B.Tech. (Full Time) DEGREE ARREAR EXAMINATIONS, APRIL / MAY 2011

AGRICULTURAL AND IRRIGATION ENGINEERING BRANCH

SEVENTH SEMESTER – (REGULATIONS 2004)

AI 510 DAIRY ENGINEERING

Time : 3 hrs

Max Marks : 100

Answer ALL Questions

Part – A (10 x 2 = 20 Marks)

- 1) Define milk and enumerate the reasons for its low yield.
- 2) Compare the composition of buffalo milk and cow milk.
- 3) State the law governing the creaming of milk with details.
- 4) The fat content of 250kg of whole milk is to be reduced from 4.2% to 3% using skim milk containing 0.11% fat. Calculate the quantity of skim milk required.
- 5) What are the common additions to cheese?
- 6) Write down the basic steps in the manufacture of ice cream with neat sketch.
- 7) What is instant milk powder and how is it produced?
- 8) Explain how the drum drier works.
- 9) Differentiate curd and yoghurt.
- 10) What is UHT processing of milk?

Part – B (5 x 16 = 80 Marks)

- 11) i) Write short notes on buttermilk, flavoured milk and yoghurt. (8)
ii) What are the advantages and disadvantages of a paper / film packaging of milk when compared to bottling? (8)
- 12) a) Write short notes on various modes of milk transportation in India. (16)
(or)
b) Explain Milk fat and Milk protein and their physical properties in detail. (16)

13) a) What are the various methods of membrane filtration followed in milk processing? Explain the principle of each one of them and compare their performance. (16)

(or)

b) Describe with a neat sketch the HTST pasteurization method. (16)

14) a) Explain the process of butter making on a commercial scale in a dairy industry. (16)

(or)

b) What are the various types of ghee? Explain the preparation process of any 2 types of ghee. (16)

15) a) Explain with a flow chart the process of spray drying of milk. (16)

(or)

b) Explain about condensed milk under following headings; (16)

- i) Use of condensed milk across the globe
- ii) Production process.
- iii) Nutritional value of condensed milk.