

**CARMEL COLLEGE OF ARTS, SCIENCE AND COMMERCE, NUVEM – GOA**

**POST GRADUATE DEGREE STUDIES (AFFILIATED TO GOA UNIVERSITY)**

**M.Sc. (II) Food Technology (Semester IV) Examination July 2021**

**FTO 110 LAB IN DAIRY TECHNOLOGY**

**Max. Marks: 15**

**Duration: 2 hours**

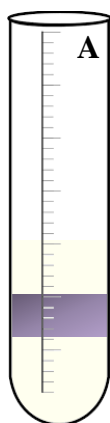
**Date: 15<sup>th</sup> July 2021**

**INSTRUCTIONS:**

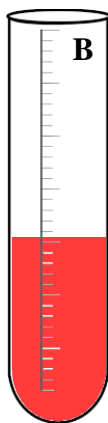
1. All questions are compulsory.
2. Figures on the right indicate maximum marks assigned to the question

**Q1. A sample of milk (maintained at 5°C) was tested for presence for adulterants and the following observations were recorded. Identify the adulterants in each test tube (A, B, C, and D), comment on their addition to milk, and describe the chemical reaction responsible for the development of color.**

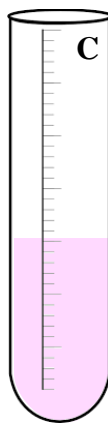
**(4 × 1 mark = 4 marks)**



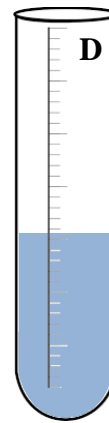
Milk +  
5 ml Conc.  
Sulphuric acid



Milk +  
5 ml Hydrochloric  
acid +  
0.1g Resorcinol +  
heat



Milk +  
Hot water + 2-3  
drops 1%  
Phenolphthalein



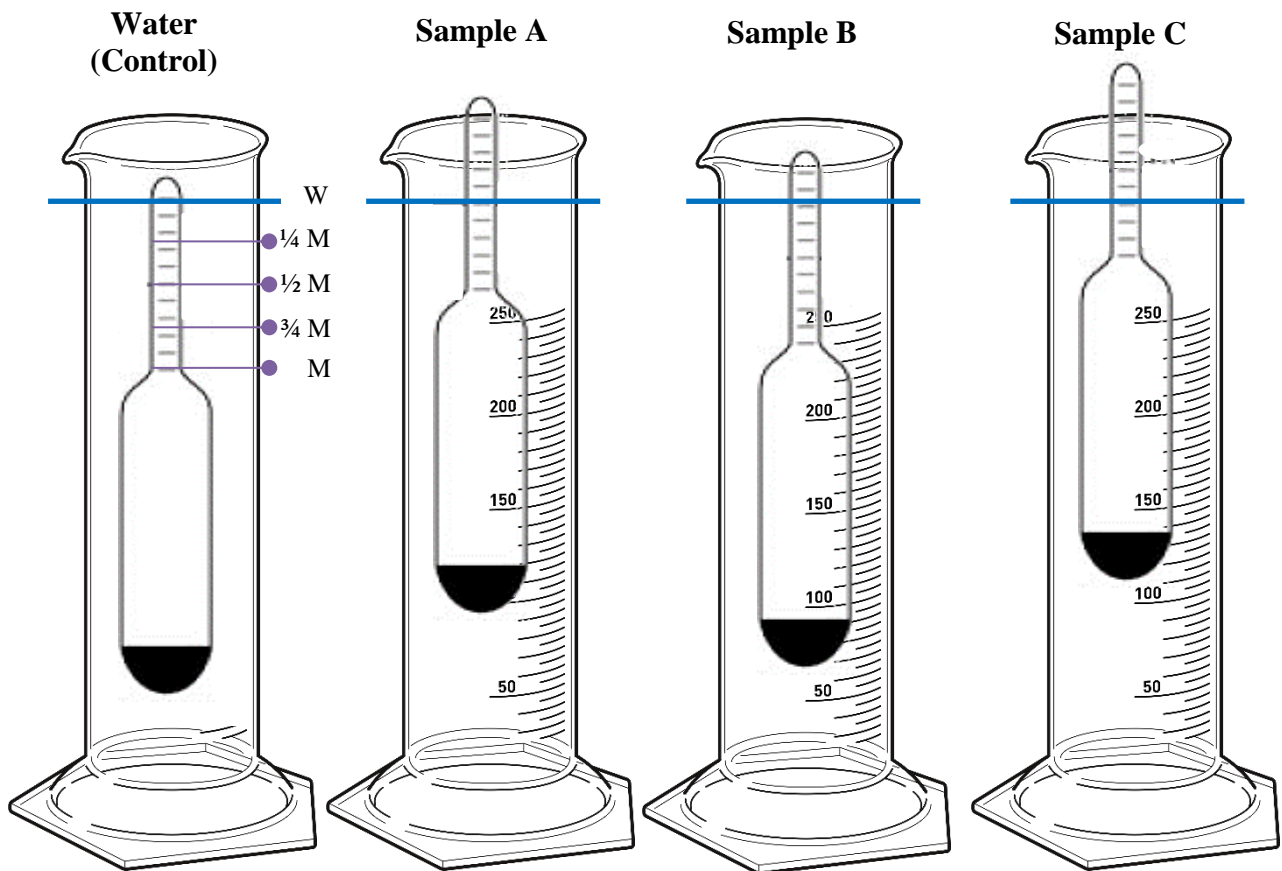
Milk +  
2-3 drops  
1% Iodine  
solution

**Q2. Using one example, elaborate on the macromolecular reactions that occur during the manufacturing process of traditional Indian milk products under each category:**

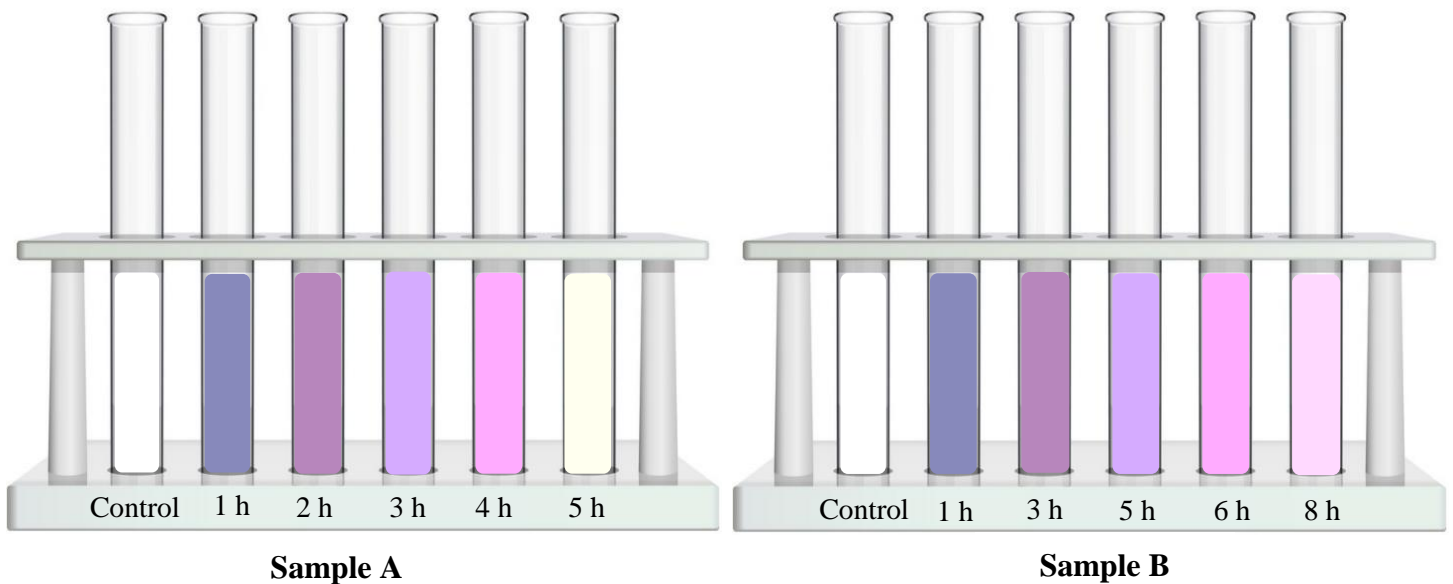
**(2 × 2 mark = 4 marks)**

- a. Product of fermentation
- b. Product of Coagulation

- Q3. A Lactometer is a device used to measure the density, and correlated fat content of milk.**  
**Three milk samples (maintained at 20°C) were subjected to lactometer testing. Explain the working of Lactometer, record your observation and comment on the composition of the samples.**  
 Blue line indicates level of liquid in the cylinder. (3 × 1 mark = 3 marks)



- Q4. Two samples of cow milk (A and B) obtained from two different sources, were subjected to pathological testing. The following results were obtained:** (4 marks)
- Based on the image provided, identify the test conducted and describe its principle of working.
  - Categorize the samples on the basis of their quality.
  - What factors would affect the efficacy of this test?



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