Assignment 3

Due on 2019-02-21, 23:59 IST

1. Milk is a mixture of foods that cannot be digested or made into solid foods is called
   a) Coning
   b) Churning
   c) Fermentation
   d) Blanching

   Accepted Answer: b) Churning

2. Which of the following thermal process is used as pasteurization before freezing, canning and drying?
   a) Blanching
   b) Steam pasteurization
   c) Hot water treatment
   d) None of the above

   Accepted Answer: b) Steam pasteurization

3. Pasteurization is generally suitable for
   a) High acid foods
   b) Low acid foods
   c) High protein foods
   d) All of the above

   Accepted Answer: d) All of the above

4. Response of a slope of resistance in a curve is shown as
   a) L axis value
   b) 0 axis value
   c) 1 axis value
   d) -1 axis value

   Accepted Answer: b) 0 axis value

5. Deviation of a spoilage microorganism at 52°C is 5.2 minutes. If initial of log phase organism at 5.99 strings per minute, which will be the final count of microorganisms per minute after 4 hours of heating at a similar temperature?
   a) 5.2
   b) 15
   c) 90
   d) 1

   Accepted Answer: c) 90

6. A dead end (3.20 mm and length 10cm) of a hollow temperature 90°C is immersed in volatile Obstruct Temperature 80°C. Calculate the temperature of milk after 5 minutes given k = 0.003 (Watt/Km) , (m) = 10 mm, p 1 = 90°C, p 2 = 80°C, k = 0.003
   a) 61.4°C
   b) 41.4°C
   c) 71.4°C
   d) 81.4°C

   Accepted Answer: a) 61.4°C

7. Calculate the sterilization time required for 89.99% inorganic reduction of Bacillus subtilis spores present at 100°C. The D value (D) for the same is 3.1 minutes and 1°C (approximately).
   a) 7 V min
   b) 6 V min
   c) 8 V min
   d) 12 V min

   Accepted Answer: c) 8 V min

8. Estimate the spoilage probability at the end of a process in which initial bacterial population at 3°C increases to 10^6 organisms per gram, suppose the microorganisms in the process are subjected to heating at 100°C for 20 minutes. The bacterial reduction time for the organism is D = 3.1 min.
   a) 3.1 min
   b) 10 min
   c) 20 min
   d) 3.1 min

   Accepted Answer: b) 10 min

9. Milk stored at 10°C at ambient temperature results in 10^8 times increase in bacterial count. Storing the same milk at same temperature for only 5 hours will cause the bacterial count to be increased by
   a) 10^2 times
   b) 10^3 times
   c) 10^4 times
   d) 10 times

   Accepted Answer: a) 10^2 times

10. Heating a suspension of spores at 10°C for 60 seconds results in a 10% reduction of the spores. To achieve the same reduction at 100°C, 3 minutes are needed. Calculate the activation energy of these spores.
    a) 2 X 10^5 Joules/K
    b) 5 X 10^5 Joules/K
    c) 9 X 10^5 Joules/K
    d) 3 X 10^5 Joules/K

    Accepted Answer: a) 2 X 10^5 Joules/K