

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B. TECH. (D.T.) DEGREE COURSE 2018-19

Semester : VII (New Syllabus)	Academic Year : 2018-2019
Course No. : DM-705	Course Title : Quality and Safety Monitoring in Dairy Industry
Credits : 2+1 = 3	Total Marks : 50
Day & Date : Saturday, 05/01/2019	Time : 15.00 to 17.00 Hrs.

- Note :**
- 1) All questions from **Section 'A'** are compulsory.
 - 2) Solve **Any Five** questions from **Section 'B'**.
 - 3) Draw neat and well labelled diagram wherever necessary.

SECTION – 'A'

Q. 1 A) Choose the most appropriate answer from the options given below. (05)

- i) Critical limit for the addition of sugar in the preparation of Sweetened Condensed Milk (SCM) for the monitoring of CCP is
 - a) Psychrotropic organisms
 - b) Mesophilic organisms
 - c) Thermophilic organisms
 - d) Thermoduric organisms
- ii) Which of the following organisms can be detected by Limulus Lysate test?
 - a) Gram negative
 - b) *Bacillus* spores
 - c) Gram positive
 - d) All of the above
- iii) ISO 22000 (Food Safety Management System) requirement for any in the food chain was first published in
 - a) 2005
 - b) 1999
 - c) 2002
 - d) 2011
- iv) Which of the following is process indicator
 - a) *Enterobacteriaceae* group
 - b) *E. coli*
 - c) *Coliforms*
 - d) *Listeria monocytogenes*
- v) Importance source of *Salmonella* in skim milk plant is
 - a) Insect
 - b) Raw material
 - c) Equipments
 - d) Bird droppings

B) Write full form of the following (05)

- i) PRPs
- ii) HEPA
- iii) WHO
- iv) USDA
- v) BIS

Q. 2 A) Give any two examples/types of the following. (05)

- i) Indirect methods for microbial assessment
- ii) Sampling plan
- iii) Chemical hazards associated with food
- iv) Surface hygiene monitoring tests/method
- v) Sanitizing agent

B) Define the following terms related with FSMS (Food Safety Management System) in single line. (05)

- i) Hazard
- ii) HACCP plan
- iii) Critical Limit
- iv) Deviation
- v) Corrective action

(P.T.O.)

SECTION –‘B’

- Q. 3 Explain the concept of HACCP. How will you apply it in a UHT milk manufacturing plant? (06)
- Q. 4 What is anaerobic digester? Explain working principle and its importance in dairy effluent treatment plant? (06)
- Q. 5 Introduce Food Safety Management System (ISO 22000) along with list of prospective users of it. Enlist all the steps in sequence for the implementation of ISO 22000 in dairy plant. (06)
- Q. 6
- A) Give an overview of the defects and causative agents for butter manufacture. (02)
 - B) Enlist categorically the rapid microbiological techniques. (02)
 - C) Write a short note on personnel hygiene in dairy plant. (02)
- Q. 7. Write short notes on.
- A) Air sampling methods (03)
 - B) DEFT (03)
- Q. 8
- A) Explain the importance of good manufacturing practices. (02)
 - B) Enlist the method used for effluent treatment in dairy industry. (02)
 - C) Enlist the name of non-microbial contaminant in dairy foods and their control measure. (02)
- Q. 9
- A) What are direct methods for assessment of microbiological contaminants? Enlist them and explain one in detail. (02)
 - B) What are the various ways to control the quality of water in a dairy plant? (04)
