

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B. Tech. Dairy Technology 2019-20

Semester	: V (V Dean)	Academic Year	: 2019-2020
Course No.	: DC-506	Course Title	: Chemical Quality Assurance
Credits	: 1+1=2	Total Marks	: 50
Day & Date	: Thursday, 09.01.2020	Time	: 11.00 to 13.00 Hrs.

- Note :**
- 1) All questions from **Section 'A'** are compulsory.
 - 2) Solve **Any Three** 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) Temporary hardness of water is caused by of calcium and magnesium.
 - a) Chlorides and sulphates
 - b) Sodium and potassium
 - c) Carbonates and bicarbonates
 - d) None of these
- ii) A point at which control can be applied so that a food safety hazard can be prevented, eliminated, or reduced to an acceptable level
 - a) CCP
 - b) HACCP
 - c) Critical limit
 - d) None of these
- iii) For accreditation of laboratories under NABL the standard is
 - a) ISO/IEC 17023
 - b) ISO/IEC 17025
 - c) ISO/IEC 17021
 - d) ISO/IEC 17027
- iv) Lactose content in milk can be determined by
 - a) Pycnometer
 - b) Polarimeter
 - c) Stalagnometer
 - d) Lactometer
- v) Starch in milk can be detected by the following test
 - a) Rosalic acid test
 - b) Hansa test
 - c) Iodine test
 - d) Diphenyl amine test

B) Define the following. (05)

- i) Molar solution
- ii) Shelf life
- iii) Quality policy
- iv) Sanitizers
- v) Accreditation of laboratory

Q. 2 A) Give reasons for the following. (05)

- i) Mercury is used for the calibration of milk butyrometer.
- ii) Temporary hardness can be removed by boiling.
- iii) Butyro refractometer reading of ghee is usually measured at 40°C.
- iv) Quality control is a failure detection system.
- v) AGMARK is a voluntary standard.

- B) State whether True or False, If False, rewrite the statement after making necessary correction to the underlined word. (05)
- i) Rosalic acid is used for detection of sucrose in milk.
 - ii) ISI lactometer is calibrated at 29°C.
 - iii) Molecular weight of oxalic acid dihydrate is 90.
 - iv) Hardness of water is expressed in terms of ppb of calcium bicarbonate.
 - v) In prediction of shelf-life of food, the abbreviated word ASLT stand for approved shelf-life testing.

SECTION – 'B'

- Q. 3 A) Briefly describe the principles of HACCP system. (05)
B) Describe the procedure for calibration of milk pipette and lactometer. (05)
- Q. 4 A) Describe the sampling procedure for ice cream and condensed milk (05)
B) What information should be provided in the labeling of samples for analysis? (05)
- Q. 5 A) How to prepare and standardize one liter of 0.1N sodium hydroxide? (03)
B) Describe the cold lime method for softening of hard water. (03)
C) What is quality? What is the difference between quality control and quality assurance? (04)
- Q. 6 A) How the AGMARK scheme operates in case of butter and *Ghee*? (03)
B) Briefly describe the occurrence of pesticide residues in milk and their estimation methods. (03)
C) Define adulteration. Describe the method for detection of any two adulterants in milk. (04)
- Q. 7 Give the classification of dairy laboratories. Describe general requirements for setting up of a laboratory for analysis of milk and milk products. (10)
