

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

Semester	: V (V Dean)	Academic Year	: 2018-2019
Course No.	: DC-506	Course Title	: Chemical Quality Assurance
Credits	: 1+1=2	Total Marks	: 50
Day & Date	: Monday, 07/01/2019	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) ISO 22000 is
 - a) Food Security Management System
 - b) Food Quality Management System
 - c) Food Process Management System
 - d) Food Safety Management System
 - ii) The volumetric tolerance for milk pipette as per BIS is
 - a) ± 0.3 ml
 - b) ± 0.03 ml
 - c) ± 0.01 ml
 - d) ± 0.1 ml
 - iii) Food Safety and Standards Act was passed by parliament in the year
 - a) 2006
 - b) 2016
 - c) 2010
 - d) 2011
 - iv) Basicity of sulphuric acid is
 - a) 1
 - b) 4
 - c) 2
 - d) 3
 - v) is used for determination of heavy metal contamination in food.
 - a) Electrophoresis
 - b) Atomic Absorption Spectrophotometer
 - c) ELISA
 - d) X-ray diffraction
- B) Define the following. (05)
- i) Food recall
 - ii) Shelf life
 - iii) Accreditation of laboratory
 - iv) Precision
 - v) Molar solution
- Q. 2 A) Give reasons for the following. (05)
- i) Hard water is not suitable for dairy processing operations.
 - ii) Volumetric pipette is not a blowout pipette.
 - iii) Glassware used in standardization procedure of silver nitrate shall be thoroughly washed with distilled water.

(P.T.O.)

- iv) Organic form of mercury is considered more hazardous than its inorganic form.
 - v) Sodium hydroxide is not used as primary standard.
- B) State whether True or False. If false, rewrite the statement after making necessary corrections to the underlined word. (05)
- i) p-dimethylamino benzaldehyde test is used for detection of maltodextrin in milk.
 - ii) AGMARK standards are mandatory for butter and ghee.
 - iii) Adulteration of ghee with coconut oil increases BR reading.
 - iv) Fehling's solution is standardized against invert sugar.
 - v) FSSAI permits use of formalin for sample preservation of milk.

SECTION – 'B'

- Q. 3 A) Describe the sampling procedure for milk from cans and tanker. (05)
B) Classify the dairy laboratories as per BIS and narrate the general requirements for setting up a quality control laboratory. (05)
- Q. 4 A) Define the term adulteration. Describe various tests for detection of neutralizers and preservatives in milk. (05)
B) Describe primary standard substances. Narrate the standardization procedure for sulphuric acid. (05)
- Q. 5 A) Describe the calibration procedure for milk pipette. (03)
B) Explain usefulness of mobile laboratory. (03)
C) Enlist advantages of instrumental analysis. Describe the working principle of Milko-tester. (04)
- Q. 6 A) Describe any one test for antibiotic detection in milk. (03)
B) Discuss the principals of HACCP system. (03)
C) Write a note on AGMARK and BIS standards. (04)
- Q. 7 Define the term quality. Differentiate between quality control and quality assurance. (10)
Add a note on total quality management.
