

**MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR**  
**SEMESTER END THEORY EXAMINATION, B.Tech. (D.T.) Degree Course 2017-18**

Semester	: VI (New Syllabus)	Academic Year	: 2017-2018
Course No.	: DC-605	Course Title	: Chemical Quality Assurance
Credits	: 2+1=3	Total Marks	: 50
Day & Date	: Wednesday, 20.06.2018	Time	: 11.00 to 13.00 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) Primary standard substance used for standardization of NaOH is .....
  - a) Oxalic acid
  - b) Sodium chloride
  - c) Sodium carbonate
  - d) None of these
- ii) Presence of neutralizer in milk can be detected by .....
  - a) MBRT test
  - b) Iodine test
  - c) Alkalinity of ash test
  - d) Barfoed's test
- iii) ..... is used to check freezing point of milk.
  - a) Calorimeter
  - b) Tensiometer
  - c) Viscometer
  - d) Cryoscope
- iv) NaCl is used for calibration of .....
  - a) Lactometer
  - b) Conical flask
  - c) Butyrometer
  - d) Burette
- v) Following parameter is not included in Agmark standards for ghee .....
  - a) RM value
  - b) Melting point
  - c) % FFA
  - d) BR reading

B) Do as directed. (05)

- i) Name the metal used for calibration of butyrometer.
- ii) ISO 22000 is belonging to which system.
- iii) Name the compounds responsible for temporary hardness of water.
- iv) Define shelf life.
- v) Give the name of permitted chemical preservatives for milk.

Q. 2 A) Answer the following. (05)

- i) What do understand by the term quality control?
- ii) Define reagent.
- iii) What is  $Q_{10}$  value?
- iv) Give the examples of chemical sanitizers.
- v) Define Normality.

(P.T.O.)

- B) State whether True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) Veterinary residue comes under biological type of hazards.
  - ii) Antibiotics in milk are detected by Charms test.
  - iii) Polarimeter is used for the measurement of purity of milk fat.
  - iv) Base-exchange method is used for softening of water.
  - v) Product used for testing of food contact material is termed as simulant.

### SECTION - 'B'

- Q. 3 Define the term hazards? What are the different types of hazards? Discuss in detail the role of HACCP. (06)
- Q. 4 Enlist the common adulterants found in milk. Give the detail procedure for detection of any four adulterants in milk. (06)
- Q. 5 Explain in detail various sampling techniques for butter and ice-cream. (06)
- Q. 6
- a). Give the importance of chemical quality assurance in dairy industry. (02)
  - b) Discuss the different types of dairy laboratories. (02)
  - c) State the importance of accelerated shelf life studies. (02)
- Q. 7
- a) Describe the calibration procedure for lactometer. (03)
  - b) Describe the method of preparation and standardization of Gerber sulphuric acid. (03)
- Q. 8 Write a note on.
- a) Mobile testing laboratories (02)
  - b) Working of milk-o-tester (02)
  - c) Working of butyro-refractometer (02)
- Q. 9
- a) What are the different sources of contamination of heavy metals in milk and milk products? (02)
  - b) Discuss the role of FSSAI in dairy industry. (04)

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