

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B.Tech. Dairy Technology 2018-19

Semester	: VI (New Syllabus)	Academic Year	: 2018-2019
Course No.	: DC-605	Course Title	: Chemical Quality Assurance
Credits	: 2+1=3	Total Marks	: 50
Day & Date	: Saturday, 29.06.2019	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) Option used to declare shelf life of highly perishable foods and present a safety risk if consumed is
 - a) "Best before" date
 - b) "Expiry" date
 - c) "Last" date
 - d) "Use by" date
- ii) TQM stands for
 - a) Total Quality Manual
 - b) Total Quality management
 - c) Testing Quality Manager
 - d) Testing Quality management
- iii) Equivalent weight of calcium hydroxide is
 - a) 37
 - b) 75
 - c) 73
 - d) 47
- iv) Mercury is used for calibration of
 - a) Pipette
 - b) Conical Flask
 - c) Lactometer
 - d) Butyrometer
- v) Density of amyl alcohol used for fat determination is gm/ml.
 - a) 0.803-0.805
 - b) 1.807-1.809
 - c) 0.813-0.815
 - d) 0.823-0.825

B) Do as directed. (05)

- i) What is Deming's PDCA cycle?
- ii) CAC stands for what?
- iii) Enlist the methods for detection of heavy metals in milk.
- iv) Define molarity.
- v) Name the compounds used for calibration of lactometer.

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

- i) Heavy metals
- ii) Basic alkalis
- iii) Chemical sanitizers
- iv) Neutralizers
- v) National regulatory agencies for milk and milk products

- B) State whether True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) ISO: 17025 is standard for accreditation of laboratories.
 - ii) Leech test is used for detection of hydrogen peroxide.
 - iii) Trier is used for sampling of panner/cheese/channa/butter.
 - iv) Pro-milk MK-II instrument is used for the determination of antibiotics in milk.
 - v) Mojonnier flask is used for determination of fat in milk.

SECTION – 'B'

- Q. 3 Discuss in detail various sampling procedures for cheese and butter. (06)
- Q. 4 Enlist the types of dairy laboratories. Write down in detail general requirements for setting up QC lab. (06)
- Q. 5 Explain the working principle of lactostar and flame photometer. (06)
- Q. 6. A) Write down the characteristics of primary standard substances. (02)
B) Differentiate between quality control and quality assurance. (02)
C) What are the different sources of contamination of heavy metals? (02)
- Q. 7 A) Describe the calibration procedure for milk pipette. (03)
B) Discuss the test for detection of added neutralizers in milk. (03)
- Q. 8 Write a note on:
A) Milk contact surfaces (02)
B) Prediction of shelf life (02)
C) Sanitizers used in dairy industry (02)
- Q. 9 A) State the objectives and functions of BIS. (02)
B) Write a note on HACCP. (04)
