

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

Semester : <b>V (V Dean)</b>	Academic Year : <b>2019-2020</b>
Course No. : <b>DM - 505</b>	Course Title : <b>Quality and Safety Monitoring In Dairy Industry</b>
Credits : <b>2+1=3</b>	Total Marks : <b>50</b>
Day & Date : <b>Wednesday, 08.01.2020</b>	Time : <b>11.00 to 13.00 Hrs.</b>

**Note :**

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

**SECTION - 'A'**

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

- i) ISO 22000 is a .....
  - a) Food Safety System
  - b) Food Safety and Management System
  - c) Quality Management System
  - d) Environmental Management System
- ii) ..... is the indicator organism for faecal contamination.
  - a) *E. coli*
  - b) *S. typhi*
  - c) *L. monocytogenes*
  - d) *E. aerogenes*
- iii) Expand DEFT .....
  - a) Descrete Epifluorescent Filter Technique
  - b) Direct Epi Fluorescent Technique
  - c) Direct Epifluorescent Filter Technique
  - d) Direct Epi Fluorescent Filter Treatment
- iv) ..... will be present in milk if aflatoxin B<sub>1</sub> is present in feed.
  - a) Aflatoxin B<sub>1</sub>
  - b) Aflatoxin M<sub>2</sub>
  - c) Aflatoxin M<sub>1</sub>
  - d) Aflatoxin B<sub>2</sub>
- v) Charm test is used to detect presence of ..... residues in milk.
  - a) Pesticide
  - b) Antibiotic
  - c) Bacteriocin
  - d) Effluent

B) Define the following (05)

- i) Critical limit
- ii) Critical control point
- iii) Food Additives (as per codex)
- iv) Hazard
- v) Quality Assurance

Q. 2 A) Elaborate the following (05)

- i) ALOP
- ii) HACCP
- iii) FSSAI
- iv) PALCAM
- v) LOD

(P.T.O.)

- B) State whether True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) ISO 14000 is an Environmental Management System.
  - ii) *Salmonella* spp is not involved in causing public health significance in consumers if survive in the product.
  - iii) For BOD analysis the effluent sample is incubated at 20°C/5days in BOD incubator.
  - iv) The chlorination of water is not a suitable method for water disinfection.
  - v) Optical Biosensors measures the difference in light intensity of a bioreaction including both reactant and products.

**SECTION - 'B'**

- Q. 3 A) Explain the enumeration principle and detection of salmonella from dairy products. (05)
- B) Enlist the direct & indirect rapid microbiological tests used to access the microbiological quality of milk and explain any one in detail. (05)
- Q. 4 A) Discuss the factors considered to setup a microbiology laboratory. (05)
- B) What is ETP? Enlist different methods of waste water treatment and discuss any one in detail. (05)
- Q. 5. A) What is quality? Differentiate between QC and QA (03)
- B) Suggest Good Manufacturing practices (GMPs) for milk processing section. (03)
- C) Explain how quality of water influences the quality of finished product. (04)
- Q. 6 A) What is risk in food industry? Explain in brief about microbial risk analysis concept. (03)
- B) Write about the historic developments of HACCP. (03)
- C) Explain the methods used to access the quality of air in dairy industry. (04)
- Q. 7 Enlist the methods of detection of drug residues in milk and explain any two in detail. (10)

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