

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

Semester : **VII (New Syllabus)**
Course No. : **DM-706**

Academic Year : **2019-2020**
Course Title : **Food and Industrial Microbiology**

Credits : **2+1=3**
Day & Date : **Thursday, 09.01.2020**

Total Marks : **50**
Time : **11.00 to 13.00 Hrs.**

Note : 1) **Section "A"** is 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) Nisin is produced from organisms
 - a) *Lab. Bulgarius*
 - b) *Lactococcus lactis*
 - c) *Leuconostoc*
 - d) None of these
- ii) Rennilase is a
 - a) Plant rennet
 - b) Microbial rennet
 - c) Yeast rennet
 - d) Animal rennet
- iii) The device that allows the sterilized air into fermentor to support the growth of bacteria is called
 - a) Impellor
 - b) pH Controller
 - c) Both a) and b)
 - d) Sparger
- iv) The malted grain mainly used in preparation of beer is
 - a) Corn
 - b) Barley
 - c) Oat
 - d) Maize
- v) The energy liberated in homofermentation is
 - a) 32 KJ
 - b) 64 KJ
 - c) 1216 KJ
 - d) None of these

B) Answer in one or two line. (05)

- i) Define: Food.
- ii) Write a short note on *Saccharolytic* bacteria.
- iii) List the sources of contamination for Poultry.
- iv) Define: Hurdle Technology.
- v) Define: Thermal Death Time (TDT).

Q. 2 A) Match the following (05)

Coloum - 'A'

- i) Intrinsic Factor
- ii) Van Emergen
- iii) Michel
- iv) Kircher
- v) Extrinsic Factor

Coloum - 'B'

- a) Occurrence of Bacteria
- b) Moisture Content
- c) Relative Humidity
- d) *Clostridium botulinum*
- e) Thermophile

(P.T.O.)

- B) State whether True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) The unit of Relative Humidity is Eh.
 - ii) Yeasts are aciduric in nature.
 - iii) Oxidation Reduction Potential is an Intrinsic factor.
 - iv) Soil is an Intrinsic factor.
 - v) Vinegar is also called as Citric acid.

SECTION - 'B'

- Q. 3 Write the brief history and scope of Food Microbiology. (06)
- Q. 4 Discuss in detail factor affecting microbial growth in food. (06)
- Q. 5 Write briefly about the spoilage of sea food. (06)
- Q. 6
- a) Write a short note on spoilages of canned food. (02)
 - b) Write the desirable and undesirable properties of Proteolytic bacteria. (02)
 - c) Write a short note on the spoilage of fruit juices. (02)
- Q. 7.
- a) Explain the parts of fermenter with neat labeled diagram. (03)
 - b) Write the preparation of beer and list the Sources of contamination during manufacture. (03)
- Q. 8
- a) Write a note on spoilage of pickles. (02)
 - b) Write a short note on Turbidostat. (02)
 - c) Write the characteristics of dairy waste. (02)
- Q. 9
- a) Write about the spoilage of carbonated soft drinks. (02)
 - b) Explain in detail various methods of food preservation. (04)
