

MAHARASHTRA ANIMAL AND FISHERY SCIENCES UNIVERSITY, NAGPUR
SEMESTER END THEORY EXAMINATION, B.TECH. (D.T.)

Semester : **IV (V Dean)**
Course No. : **DM- 403**

Academic Year : **2021-2022**
Course Title : **Starter Cultures and Fermented Milk Products**

Credits : **(2+1=3)**
Day & Date : **Thursday, 25/08/2022**

Total Marks : **50**
Time : **02.30 Hrs.**

- 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 and indicate the most appropriate answer for the following. (05)

- i) The first commercial manufacture of starter culture was started by
 - a) Danisco
 - b) DSM Foods
 - c) Chr. Hansen
 - d) Joseph Lister
- ii) Lactococcal starter produce lactic acid.
 - a) L(+)
 - b) L(-)
 - c) D(+)
 - d) D(-)
- iii) Yakult is probiotic drink containing
 - a) *Lactobacillus acidophilus*
 - b) *Lactobacillus casei*
 - c) *Bifidobacterium bifidum*
 - d) *Saccharomyces boulardi*
- iv) Group N Streptococci utilize galactose by
 - a) Leloirs-1-p-pathway
 - b) Phosphoketolase pathway
 - c) Tagatose 6-p-pathway
 - d) Glycolytic pathway
- v) *Brevibacterium linens* is used in ripening of
 - a) Limburger cheese
 - b) Cheshire cheese
 - c) Camembert cheese
 - d) Gorgonzola cheese

B) Define the following. (05)

- i) Starter cultures
- ii) Bulgarian Milk
- iii) Cryoprotectants
- iv) Yakult
- v) Acidophilus milk

Q. 2 A) Answer the following question in one or two lines. (05)

- i) What is the use of *Propionibacterium* in dairy industry?
- ii) Enlist various preservation methods of starter culture.
- iii) Comment on starter distillate.
- iv) Importance of dairy starter culture.
- v) Comment on Adjunct starter culture

(P.T.O.)

- B) State whether True or False. If false, rewrite the statement after making necessary corrections. (05)
- i) Starters cultures are usually catalase positive.
 - ii) Probiotics can be used as starter culture also.
 - iii) Delvo test is used for detecting antibiotic residues in milk.
 - iv) Positive creatine test is an indication of acid production ability of starter culture.
 - v) MRS agar is used for enumeration of Lactococci.

SECTION – 'B'

- Q.3 A) Discuss in detail propagation of starter culture and state its importance. (05)
- B) Explain classification of starter culture based on type of fermentation and give at least two examples of species in each group. (05)
- Q.4 A) Explain in short "Cultured butter milk". (05)
- B) Briefly explain the mold based fermented milk products. (05)
- Q.5 A) Enlist the factors affecting quality of *dahi*. (03)
- B) Enlist the ideal characteristics of starter cultures. (03)
- C) Give flow diagram for preparation of *Yoghurt*. (04)
- Q.6 A) Write a short note on therapeutic value of fermented milk products. (03)
- B) Comment on "*Leben*". (03)
- C) Explain in short Symbiosis in *yoghurt* starter. (04)
- Q.7 Explain the future scope of fermented milk industry in India. (10)
