

Exam.Code:0911
Sub. Code: 6722

1078
B.E. (Biotechnology)
Seventh Semester
BIO-702: Food Biotechnology

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) Write briefly on morphology of fungi important in food.
- b) What is blanching?
- c) Name various cereal based traditional Indian fermented foods along with composition.
- d) Differentiate between non pathogenic and pathogenic *E. coli*.
- e) Give the mechanism of thermal inactivation in bacterial cells and spores.
- f) What are the important applications of lactoperoxidase system?
- g) What are the characteristics of the enterotoxins of *Staphylococcus aureus*?
- h) Distinguish between psychrophile and psychrotroph.
- i) Give role of important enzymes used in cheese production.
- j) Define D and Z value. (10x1)

UNIT - I

II. Discuss the intrinsic and extrinsic parameters that influence the ability of foods to support the growth of microorganisms. (10)

III. a) Name two genera from each of following groups:-

- i) Gram -ve aerobic rods
- ii) Gram -ve facultative anaerobic rods
- iii) Gram +ve endospore forming rods
- iv) Gram +ve non sporulating rods

b) Write a brief account on incidence and behavior of microorganisms in food. (4,6)

IV. a) What are the various sources of microorganisms into food?

b) What are the major nutrients in food metabolized by the microorganisms? List the carbohydrates in milk and meat; pentoses in plant foods; and an oligosaccharide in plant food. (5,5)

P.T.O.

(2)

UNIT - II

- V. What is food poisoning? Describe physiological mechanism associated with it. What are the important characteristics of causative pathogen associated with yersiniosis? (10)
- VI. a) List bacteria, yeasts, and molds (two of each) associated with the spoilage of vegetables and fruits. Discuss the major differences in spoilage by bacteria of these two groups of food.
- b) Give a brief account on any two molecular approaches to diagnose microbial contents of food. (5,5)
- VII. a) What are the various important applications of food biosensors?
- b) Write briefly on important methods of preservation. (3,7)

x-x-x