

B.Sc. Part-III Semester-VI Examination
MICROBIOLOGY
(Industrial Fermentations Food Microbiology and Metabolism)

Time : Three Hours]

[Maximum Marks : 80

Note :— (1) All questions are compulsory.

(2) Question No. 1 is objective type and has no internal choice.

(3) Q. No. 2 to Q. No. 7 have internal alternative choice and carry equal marks.

(4) Draw neat and labelled diagrams wherever necessary.

1. (A) Fill in the blanks :

(i) _____ yeast is used for fermentation of alcohol.

(ii) The material which is widely used for controlling excess foam formation is known as _____ agent.

(iii) The major milk protein present in milk is _____.

(iv) Vinegar is also known as _____ wine. 2

(B) Choose the correct option :

(1) Sugar present in milk is _____.

(a) Lactose

(b) Glucose

(c) Dextrose

(d) Arabinose

(2) In IITST method for pasteurization of milk _____ °C temperature is used.

(a) 70

(b) 68

(c) 71.7

(d) 60

(3) The use of Hops used in the Beer production is a female inflorescences of _____.

(a) Humulus lupulus

(b) Hibiscus

(c) A. Indica

(d) None of the above

(4) Another name of Vit. B₁₂ is _____.

(a) Cynocobalamin

(b) Riboflavin

(c) Pantothenic acid

(d) Niacin 2

(C) Give the answer in **one** sentence :

(1) Give the long form of EMP pathway.

(2) Give one application of phosphatase test.

(3) Define Sauerkraut.

(4) What do you mean by ENZYMES ? 4

2. (a) Describe in brief production strain. 4

(b) Give any four differences in BATCH fermentation and CONTINUOUS fermentation. 4

(c) Describe in brief corn steep liquor. 4

OR

(d) Describe in brief antiformal agent and give its application. 4

(e) Give the scope of Industrial Microbiology in present scenario. 4

(f) Give any four differences in surface and submerged fermentation. 4

3. What do you mean by Lager beer ? Describe in detail the process of commercial production of BEER. 12

OR

Give different types of vinegar and explain in detail the commercial production of vinegar by fringe method. 12

4. What is Penicillin ? Give the entire process of commercial production of penicillin. 12

OR

Define BAKER'S yeast and describe in detail the production of Baker's yeast from molasses. 12

5. (a) Define milk and give its composition along with pH. 4
(b) What are the different sources of micro organisms in milk ? 4
(c) Define pasteurization and briefly describe HTST method of pasteurization of milk. 4

OR

(d) What are the different grades of milk and why there is necessity of grading the milk ? 4
(e) Describe in brief various types of micro-organisms present in Raw milk. 4
(f) Define cheese and give brief outline of cheese production. 4

6. (a) What is IDLI ? Explain in brief the process of Idli production. 4
(b) Describe in brief chemical preservation of foods. 4
(c) What are the different sources of contamination of fresh food ? 4

OR

(d) Define food poisoning. Describe in brief food intoxication with suitable examples. 4
(e) What is preservation of food ? Describe in brief High temperature method for food preservation. 4
(f) Briefly describe indicators of food contamination as per WHO. 4

7. Describe the following in brief :
(a) Nomenclature of enzymes. 4
(b) Active site. 4
(c) Immobilized enzymes. 4

OR

(d) Classification of enzymes. 4
(e) Co-enzyme. 4
(f) Allosteric enzymes. 4