

B.Sc. (Part—III) Semester—VI Examination

6S : MICROBIOLOGY

(Industrial Fermentations, Food Microbiology and Metabolism)

Time : Three Hours]

[Maximum Marks : 80

Note :—(1) All questions are compulsory.

(2) Draw neat and labelled diagrams wherever necessary.

1. (A) Fill in the blanks :— 2
- (i) _____ Yeast is used in the bakery during fermentation of bread.
- (ii) Waste sulfite liquor is raw material for production of _____.
- (iii) Kreb cycle is also known as _____.
- (iv) _____ is major protein present in milk.
- (B) Choose the correct option :— 2
- (i) Name of milk sugar is :
- (a) Glucose (b) Lactose
- (c) Dextrose (d) Arabinose
- (ii) Botulism is :
- (a) Food infection (b) Food intoxication
- (c) Fever (d) Nausea
- (iii) The end product of glycolysis is :
- (a) Lactic acid (b) Citric acid
- (c) Pyruvic acid (d) Acetic acid
- (iv) In LTH method for pasteurization of milk temperature is :
- (a) 50°C (b) 60°C
- (c) 70°C (d) 62.8°C
- (C) Answer the following in one sentence :— 4
- (i) Pasteurization
- (ii) Fermentation
- (iii) Food intoxication
- (iv) Antifoam agent.

2. (a) Give any one method for sterilization of production media in brief. 4
 (b) Draw well labelled diagram of fermentor. 4
 (c) Describe in brief batch and continuous fermentation. 4

OR

- (d) Describe enrichment culture technique of primary screening. 4
 (e) Describe inoculum build up. 4
 (f) What is production strain ? 4
 3. (a) Draw well labelled diagram of fring's generator. 4
 (b) Draw flowsheet diagram for Acetone-Butanol Production from corn. 4
 (c) Discuss raw materials and conditions of alcohol production. 4

OR

- (d) Draw flow-sheet diagram for Beer. 4
 (e) What is wine and give its classification ? 4
 (f) Give industrial uses of citric acid. 4
 4. (a) Describe in brief industrial production of SCP from bacteria. 4
 (b) What is amylase ? Give its uses. 4
 (c) Draw flow-sheet diagram for production of Baker's yeast. 4

OR

- (d) Draw flow-sheet diagram for penicillin production. 4
 (e) Describe in brief Active Dry Yeast (ADY). 4
 (f) Explain in brief recovery and purification of penicillin. 4
 5. What is Cheese ? Describe in detail production process of cheese. 12

OR

- What is pasturization ? Describe in detail HTST pasteurization process for milk. 12
 6. (a) Give difference between food infection and food intoxication. 4
 (b) What is botulism ? Describe in brief. 4
 (c) Give two methods for food preservation. 4

OR

- (d) Describe in brief production of Idli. 4
 (e) Describe Spoilage of pickles. 4
 (f) Describe preservation of foods by high osmotic pressure. 4
 7. Describe in detail EMP pathway. 12

OR

Describe in detail Enzyme classification. 12