

U.G. 6th Semester Examination - 2022**MICROBIOLOGY****[HONOURS]****Course Code : MB-H-CC-L-14****(Food and Industrial Microbiology)**

Full Marks : 40

Time : $2\frac{1}{2}$ Hours*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*1. Answer any **five** from the following: $2 \times 5 = 10$

- i) What is Putrefaction of meat? Which group of organisms is generally involved?
- ii) What are the major reasons for canned foods spoilage?
- iii) Which type of food has the risk of having aflatoxin? What are the undesirable changes that Lactic acid bacteria (LAB) can cause in various types of foods?
- iv) Sterilization is used for canned food, but not for milk. Justify the statement with proper reasons.

- v) What is Multiple-stage continuous fermentation? What for is it used?
- vi) What is mashing? Mention its usages.
- vii) What is used as starter culture for citric acid preparation? What is the preferred substrate?
- viii) Mention the usages of food additives.

2. Write short notes on any **two** of the following: $5 \times 2 = 10$

- i) Strain improvement for industrial use
- ii) Food-borne intoxication
- iii) Cheese production
- iv) Airlift fermenter

3. Answer any **two** from the following: $10 \times 2 = 20$

- i) What is feedback regulation? With suitable example, explain how is it important in industrially important microbes. Discuss one method for isolation of industrially important microbes and one method for long term preservation of such microbes. $1+3+3+3$
- ii) Mention the importance of fed-batch fermenter. How is it used in production of baker's yeast? Discuss the fermentation parameters used and

[Turn Over]

the process of its post-production harvesting.

2+3+(3+2)

- iii) What is perishable food? Which factors contribute to the perishable nature of food? What are the possible sources of contamination of food in general? Discuss the mechanism of spoilage of stored vegetables. 1+3+3+3
- iv) Outline different factors that will influence your decision in recommending methods of extraction of fermentation products. Compare the physical and chemical methods of cell disruption. Briefly discuss the process and application of spray drying. 4+3+3
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