



**HL-003-019302**

Seat No. \_\_\_\_\_

**M. Sc. (Microbiology) (Sem. III) (CBCS) Examination**

**May / June – 2017**

**MICRO - 314 : Fermentation Technology - I**

**Faculty Code : 003**

**Subject Code : 019302**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- 1 Answer the following : (any **seven** out of **ten**, each of **two** marks) **14**
- (1) What function of baffles ?
  - (2) What is Maillard - type browning reaction ?
  - (3) Enlist advantages of batch sterilization.
  - (4) What are qualities of a good sensor ?
  - (5) What is Piezo-Electric Biosensors ?
  - (6) What do you mean by strain improvement ?
  - (7) What are Potential sources of virus contamination in biotechnological products ?
  - (8) Define the term "Secondary Screening".
  - (9) What is cryopreservation ?
  - (10) How would you avoid the entry of contaminants in a fermentation vessel ?
- 2 Answer the following : (any **two** out of **three**, each of **seven** marks) **14**
- (a) How would you differentiate primary and Secondary Screening ? Discuss secondary screening in detail.
  - (b) Write a note on preservation of industrially important microbe.
  - (c) What are antifoam agents ? Describe.

- 3** Answer the following : (each of **seven** marks) **14**
- (a) What are biosensors ? Describe its applications.
  - (b) What is a bioreactor ? Describe its component parts.
- OR**
- 3** Answer the following : (each of **seven** marks) **14**
- (a) Write a short note on continuous fermentation process.
  - (b) What is containment categorization and aseptic operation ? Describe.
- 4** Answer the following : (each of **seven** marks) **14**
- (a) Write a note on aeration and agitation.
  - (b) Describe various designs of bioreactors.
- 5** Answer the following : (Any two out of four each of **seven** marks) **14**
- (a) Describe applications of biosensors in bioprocess monitoring and control.
  - (b) What consequences happen if a fermentation production medium is contaminated with undesirable microbes ?
  - (c) What is Master Cell Bank and Working Cell Bank ?
  - (d) Write a note on viral safety of biotechnological products.
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