



JAY-003-1193002 Seat No. _____

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

Examination

December – 2019

MICRO - 314 : Fermentation Technology - I

Faculty Code : 003

Subject Code : 1193002

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

[Total Marks : 70

- 1 Answer the following : (Any seven out of ten, each of 2 marks) 14
1. Define the term antibiotic and exemplify it.
 2. What is mass transfer bioprocess? Exemplify.
 3. Define the term- Rheology.
 4. What is a precursor? Give an example.
 5. What are the antifoam agents? Give examples.
 6. Give advantages of cyclone bioreactor.
 7. Enlist methods for the preservation of industrially important microbes.
 8. What is feedback control?
 9. What is chemostat?
 10. What is the importance of recombinant DNA technology in industrial microbiology?
- 2 Answer the following (Any two out of three, each of 7 marks) 14
- a. How would you perform screening of streptomycin producers?
 - b. What is cryopreservation?
 - c. Draw a line diagram of an ideal bioreactor and write function of each part".

- 3** Answer the following : (Each of 7 marks) **14**
- a. Compare and contrast batch and continuous fermentation processes.
 - b. Write a note on Agitation.

OR

- 3** Answer the following : (Each of 7 marks) **14**
- a. Write a short note on crude nitrogen sources used in the fermentation media.
 - b. Explain different ways of Strain improvement in fermentation industries.
- 4** Answer the following : (Each of 7 marks) **14**
- a. Write about heterologous gene expression.
 - b. Write a note on,containment categorization.
- 5** Answer the following (Any two out of four, each of 7 marks) **14**
- a. Describe various applications of Biosensors in environmental monitoring.
 - b. Write a short note on the viral safety of biotechnological products
 - c. Discuss in detail filtration as the sterilization method.
 - d. Write a note on automation in fermentation industries.
