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HDY-003-019302

Seat No. _____

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

November / December – 2017

MICRO-314 : Fermentation Technology - I

(Old Course)

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 02 marks) **14**

(1) What is containment?

(2) What is Del factor?

(3) What is solid-state fermentation?

(4) Enlist types of agitators and give its functions.

(5) Name one of the most heat-resistant microbial types known.

(6) What are interferons?

(7) What do you mean by MCB in context to virus test?

(8) List out qualities of an ideal biosensor.

(9) What is scale up in fermentation industries?

(10) What are upstream process?

2 Answer the following : (Any two out of Three, each of 7 marks) **14**

(a) What is screening? Distinguish Primary and Secondary screening.

(b) Discuss protoplast fusion as a technique to improve industrially important microbes.

(c) What is cryopreservation? Describe.

3 Answer the following : **14**

(a) What are biosensors? Describe.

(b) Distinguish Bioreactor and Fermenter and describe an ideal bioreactor with its component parts.

OR

3 Answer the following : **14**

(a) Enlist advantages and disadvantages of batch and continuous fermentation processes.

(b) Describe containment categorization and aseptic operation.

4 Answer the following : **14**

(a) Why there is a need for viral safety of biotechnological products? Describe.

(b) Enlist various downstream processes and discuss various techniques for microbial cell lysis.

5 Answer the following : (Any two out of four, each of 07 marks) **14**

(a) Write a note on consequences if a contaminant enters in a fermentation medium.

(b) Write a note on Aeration.

(c) Describe various crude carbon sources useful in formulation of fermentation media.

(d) What on antifoam agents? Enlist properties of an idea antifoam agent.
