DUU-003-019302 Seat No. _____

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

May / June – 2015

314 : Fermentation Technology - I

Faculty Code : 003
Subject Code : 019302

Time : **3** Hours] [Total Marks : **70**

1 Answer any 7 (2 marks each) **14**

(i) State the composition of molasses.

(ii) What is primary screening?

(iii) What is a continuous culture?

(iv) State the main difference between turbidostat and chemostat.

(v) Enlist criteria important for designing a bioreactor.

(vi) What is the need for containment categorization?

(vii) Enlist various applications of biosensor.

(viii) Enlist various types of bioreactors.

(ix) What is a CSTR?

(x) What is on line monitoring?

2 Answer any 2 of the following (7 marks each) **14**

(i) Discuss methods for screening various industrially important microbes.

(ii) Explain preservation of microbes by lyophilisation and its advantages and drawbacks.

(iii) Give an account of carbon sources used in fermentation industry.

3 Answer the following (7 marks each) **14**

(i) Describe the process of sterilization of air in fermentation industry.

(ii) Give an account of methods used to control foam in fermenters.

OR

3 Answer the following (7 marks each) **14**

(iii) Discuss medium sterilization in commercial microbial processes.

(iv) Comment on the "Viral Safety of Biotech Products".

4 Answer any 2 of the following (7 marks each) **14**

(i) Discuss process monitoring and control.

(ii) Describe applications of Biosensors in industrial fermentations.

(iii) Discuss in details the on line monitoring process.

5 Write a short note on any 2 of the following (7 marks each) **14**

(i) Stock Cultures (ii) Chemostat

(iii) Sulfite waste liquor (iv) Strain improvement