SLR-DL-55

Seat No.	

Set P

B.Sc. (Semester - VI) (Old) (CGPA) Examination Oct/Nov-2019
Biotechnology
FERMENTATION TECHNOLOGY

Day & Date: Thursday, 10-10-2019 Max. Marks: 70
Time: 08:00 AM To 10:30 AM

Instructions: 1) All questions are compulsory.
2) Draw neat labeled diagram wherever necessary.

Q.1 Fill in the blanks by choosing correct alternatives given below. **14**

1) Common example of fermented beverage product is _____.
   a) pickles b) beer
   c) bread and buns d) cheese and yogurt

2) _____ is mean by "Idiophase".
   a) Production of waste materials
   b) Production of topical products
   c) Production of primary metabolites
   d) Production of secondary metabolites

3) _____ of the following is an upstream process.
   a) Product recovery b) Product purification
   c) Media formulation d) Cell lysis

4) Alcoholic fermentation is carried by yeast _____.
   a) *Lactobacillus spps* b) *Saccharomyces Cerevisiae*
   c) *Bacillus spps* d) *Escherichia coli*

5) _____ is not fruit or vegetable based fermented product.
   a) Wine b) Beer
   c) Vinegar d) Sauerkraut

6) Compound that break the form are called _____.
   a) Foam stabilizers b) Foam enhancer
   c) Foaming agents d) Antifoam agents

7) _____ of the following is an antifoam agent.
   a) Cotton seed oil b) Methanol
   c) Chloroform d) Ethyl acetate

8) Economic fermentation of an industrial product is done by using _____.
   a) Synthetic media b) waste as a raw material
   c) Living media d) semi synthetic media

9) Paper-disc method is example of _____ assay.
   a) Enzymatic b) End-point determination
   c) Turbidimetric d) Diffusion

10) Cell lysis becomes an important operation if the product is _____.
   a) Extra cellular b) Heat labile
   c) Toxic d) Intracellular

11) _____ Separation technique is based on differential partitioning between two phases that is mobile and stationary.
   a) Filtration b) Precipitation
   c) Centrifugation d) Chromatography

12) _____ Method is used to separate compounds on the basis of their relative solubilities in two different immiscible liquids.
a) Filtration b) Liquid-liquid extraction
c) Centrifugation d) Chromatography

13) _____ Method is used to improve industrially important strains.
a) Disc diffusion b) Microbial inhibition spectrum
c) Protoplast fusion d) End point determination

14) Primary screening of organic acid and organic amine producing organisms identified by use of _____.
a) pH indicating dyes b) Dilution method
c) Gradient plate technique d) Crowded plate technique

Q.2 A) Answer the following questions. (Any Four) **08**
1) Give examples Antifoam agents.
2) Give function of Aeration and agitation in fermentor.
3) Microorganisms involved in amylase production.
4) Define synthetic and crude media.
5) Define disintegration method.

B) Answer the following questions. (Any Two) **06**
1) Different methods of Inoculum preparation.
2) Solvent recovery method for purification of fermented product.
3) Turbid metric and End point Determination assay.

Q.3 A) Answer the following questions. (Any two) **08**
1) Explain Submerged and Solid state Fermentations.
2) Explain Fermentation economics.
3) Explain Bio-insecticide production.

B) Answer the following questions. (Any One) **06**
1) Explain Microbial growth Kinetics in batch culture.
2) Explain detection of fermented products by using Biological assays.

Q.4 A) Answer the following questions. (Any Two) **10**
1) Explain characteristics of an ideal fermentation medium.
2) Explain Strain Improvement by mutation.
3) Explain production of Ethanol.

B) Answer the following questions. (Any One) **04**
1) Explain secondary screening.
2) Explain application of computer in fermentation technology.

Q.5 Answer the following questions. (Any Two) **14**
a) Explain basic functions, components and operation of the fermenter.
b) Explain primary screening.
c) Explain different methods of purification of fermentation product.