

D 91049

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Name.....

Reg. No.....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

(UG—CCSS)

Core Course—Biotechnology

BT5 B03—BIOPROCESS TECHNOLOGY

Time : Three Hours

Maximum : 30 Weightage

I. Objective Type Questions. Answer *all* questions :

A. Choose the correct answer :

- 1 The precursor added to the production of penicillin G :
 - (a) Acetic acid.
 - (b) Biotin.
 - (c) Phenyl acetic acid.
 - (d) Cobalt chloride.
- 2 Recovery of products of fermentation in a bioprocess technology :
 - (a) Upstream process.
 - (b) Screening.
 - (c) Downstream process.
 - (d) Isolation.
- 3 Which one is single cell protein ?
 - (a) Mold.
 - (b) Saccharomyces cerevisiae.
 - (c) Pseudomonas.
 - (d) Lactic acid bacteria.
- 4 Cancerous cells are :
 - (a) Anchorage dependent.
 - (b) Anchorage independent.
 - (c) Have contact inhibition.
 - (d) None of the above.
- 5 Ligand-Receptor interaction occur in :
 - (a) Adsorption chromatography.
 - (b) Iron-exchange chromatography.
 - (c) Affinity chromatography.
 - (d) Gel exclusion chromatography.
- 6 Source of microbial rennet :
 - (a) A-niger.
 - (b) Bacillus.
 - (c) Mucor-sp.
 - (d) Lactobacillus.

B. True or False :

- 7 Vin blastin is a low volume-high value product.
- 8 Gas chromatography used to separate nonvolatilize compound.

Turn over

- 9 Molasses are the byproduct of sugar industry.
- 10 In turbidostate specific nutrient control the growth of organism.
- 11 Imhoff tanks are anaerobic digestion chambers.
- 12 Proteases are used in detergent industry.

(12 × ¼ = 3 weightage)

II. Short Answer Type Questions. Answer all *nine* questions :

- | | |
|-----------------------|------------------------|
| 13 Protoplast fusion. | 14 Fed-batch culture. |
| 15 Flocculation. | 16 Reverse osmosis. |
| 17 Perfusion culture. | 18 Air lift fermenter. |
| 19 Use of amylases. | 20 Vinegar. |
| 21 Spirulina. | |

(9 × 1 = 9 weightage)

III. Short Essay or Paragraph Questions. Answer any *five* questions :

- 22 Strategies of media designing in fermentation.
- 23 Assay procedures for fermentative end products.
- 24 Hairy root culture and its application.
- 25 Monolayer culture methods in animal cell culture.
- 26 Methods for preservation of micro-organisms.
- 27 Primary screening of industrially important microbes.
- 28 Use of microbial enzymes in dairy industry.

(5 × 2 = 10 weightage)

IV. Essay Questions. Answer any *two* questions :

- 29 Discuss about applications of immobilized enzymes and cells.
- 30 What are the different sources of microbial enzymes ? Explain extraction and purification of enzymes.
- 31 Write an essay on scale-up of fermentation.

(2 × 4 = 8 weightage)