

**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 Vinblastin 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 x 3 = 36 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 x 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 x 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 x 4 = 8 weightage)