

D 71059

(Pages :2)

Name.....

Reg. No.....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2014

(UG—CCSS)

Core Course—Biochemistry

BT 5B 03—BIOPROCESS TECHNOLOGY

Time : Three Hours

Maximum : 30 Weightage

I. Objective Type Questions. Answer *all* questions. Each question carries $\frac{1}{4}$ weightage :

1 Regular intake and removal of media is the characteristic of :

- | | |
|------------------------|-------------------------|
| (a) Fed-batch culture. | (b) Continuous culture. |
| (c) Batch culture. | (d) None of these. |

2 Which is used in protoplast fusion ?

- | | |
|-------------------|--------------------|
| (a) Lambda virus. | (b) Sendai virus. |
| (c) Prophage. | (d) None of these. |

3 Mostly used type of valve in fermentation system :

- | | |
|----------------------|------------------|
| (a) Plug valve. | (b) Gate valve. |
| (c) Diaphragm valve. | (d) Globe valve. |

4 Which of the following is a primary metabolite ?

- | | |
|------------------|-----------------|
| (a) Amino acid. | (b) Penicillin. |
| (c) Citric acid. | (d) Ethanol. |

5 Which of the following chromatographies is charge dependent ?

- | | |
|-------------------|--------------------|
| (a) Adsorption. | (b) Affinity. |
| (c) Ion exchange. | (d) Gel exclusion. |

6 *Agrobacterium rhizogenus* induces :

- | | |
|-------------------------|-------------------------|
| (a) Crown gall disease. | (b) Hairy root disease. |
| (c) Mosaic disease. | (d) Chlorosis. |

7 Biogas contains :

- | | |
|----------------------|----------------------|
| (a) 30-40 % methane. | (b) 50-60 % methane |
| (c) 40-45 % methane. | (d) 70-80 % methane. |

Turn over

8 Anchorage dependence is a property of :

- | | |
|----------------------------|------------------|
| (a) Monoclonal antibodies. | (b) Tumor cells. |
| (c) Normal cells. | (d) Nerve cells. |

9 Most important chlorination derived byproduct is :

- | | |
|--------------------|----------------------|
| (a) Dichloroethan. | (b) Trihalomethane. |
| (c) Chloropropane. | (d) Dichloropropane. |

10 Hanging drop method is med in the _____ of proteins.

- | | |
|----------------------------------|-------------------|
| (a) Crystallisation. | (b) Preservation. |
| (c) Modification of active situ. | (d) Extraction. |

11 Monoclonal antibody is used to :

- | | |
|--------------------|-------------------|
| (a) Drug delivery. | (b) Purification. |
| (c) Imaging. | (d) All of these. |

12 The most suitable preservation method for enzymes :

- | | |
|--------------------------------|--------------------|
| (a) Lyophilization. | (b) Freezing. |
| (c) Addition of preservatives. | (d) None of these. |

(12 x $\frac{1}{4}$ = 3 weightage)

II. Short Answer Type questions. Answer *all* nine questions. Each question carries 1 **weightage** :

- | | |
|-----------------------|--------------------------|
| 13 Perfusion culture. | 14 Plug flow reactors. |
| 15 Capsicine. | 16 Chemostat. |
| 17 Seeding density. | 18 Intercalating agents. |
| 19 Vitamin B12. | 20 Filter sterilization. |
| 21 RBC. | |

(9 x 1 = 9 weightage)

III. Short Essay or Paragraph. Answer any *five* questions. Each question carries 2 **weightage** :

- | | |
|--------------------------------------|---------------------------------------|
| 22 Production of vinblastin . | 23 Advantages of single cell protein. |
| 24 Endosperm culture. | 25 Chemical mutagens. |
| 26 Viral vaccines. | 27 Reverse osmosis. |
| 28 Anaerobic digestor . | |

(5 x 2 = 10 weightage)

W. Essay Questions. Answer any *two* questions. Each question carries 4 **weightage** :

- 29 Describe the different aerobic methods for wash water treatment.
- 30 Describe the processes in immobilization with its advantages.
- 31 Discuss enzyme extraction and purification.

(2 x 4 = 8 weightage)