

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2022
(Second Semester)

Branch - BIOTECHNOLOGY

DISCIPLINE SPECIFIC ELECTIVE – I : BIOPROCESS TECHNOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 Find the following method of preservation is more suitable and used widely?
(i) Dried cultures (ii) Lyophilisation
(iii) Salt storage (iv) Storage in liquid nitrogen
- 2 The continuous culture is a/ an ----- system.
(i) Closed (ii) Isolated
(iii) Semi-closed (iv) open
- 3 Which one of the following organic acids is abundant in grapes, tamarind and banana?
(i) Tartaric acid (ii) Lactic acid
(iii) Citric acid (iv) Acetic acid
- 4 Milk is a good source of all water-soluble vitamins except for _____.
(i) Cyanocobalmin (ii) Riboflavin
(iii) Ascorbic acid (iv) Thiamine
- 5 Choose the following method in which entrapment can be achieved?
(i) Adsorption (ii) Membrane confinement
(iii) Covalent binding (iv) Microencapsulation

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a. How can you design a basic fermentor?
OR
b. List out the types of antifoaming agents.
- 7 a Compare the batch and fed-batch process.
OR
b Differentiate downstream processing and upstream processing.
- 8 a Categorize the types of organic acids.
OR
b Illustrate the commercial production of ethanol.

Cont...

- 9 a Discuss about the basic types of penicillin.
OR
b Classify the nucleoside antibiotics.
- 10 a Explain the three main types of immobilization.
OR
b Write the details about MSME.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Describe the Airlift fermentors and write its advantages.
OR
b Categorize the different methods of strain development.
- 12 a Describe the bacterial growth kinetics and explain their relevant stages.
OR
b Elucidate the types of crystallization methods in bioprocess technology.
- 13 a Outline the production of Vitamin B12.
OR
b Is bioplastic cheaper than plastic? What are the three groups of bio-plastics?
- 14 a List out the various microbial enzymes and write their applications.
OR
b Elaborate the steps involved for the production of cheese.
- 15 a Discuss the medical applications of enzymes.
OR
b Write a detailed note on biofertilizers.

Z-Z-Z

END