

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2019
(Sixth Semester)

Branch - BIOTECHNOLOGY

CORE ELECTIVE; INDUSTRIAL AND MICROBIAL BIOTECHNOLOGY

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 What is meant by strain improvement?
- 2 Define fermentor.
- 3 What is $dx / dt = \mu x$?
- 4 What is meant by Batch culture?
- 5 name any two methods to disrupt the cells.
- 6 Define crystallization.
- 7 Secondary metabolites.
- 8 Semisynthetic penicillin.
- 9 Define Biocatalyst.
- 10 Define growth factors.

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Explain the isolation techniques employed in Industry.
OR
b Illustrate the factors influencing the choice of carbon sources.
- 12 a Describe the growth rate of microorganism in stationary phase in batch culture.
OR
b Discuss about the markable and useful by-products in fermentation process.
- 13 a Explain how foams are separated.
OR
b Explain how microbial cells and other solid matters are separated from broth?
- 14 a List out the uses of amylase and protease.
OR
b What is the principal limitation created to stimulate citric acid production by Aspergillus niger?
- 15 a Write a short note on mushroom cultivation.
OR
b Explain the process of production of gibberellins in brief.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 Explain Scale up fermentor and add a note on sterilization technique.
- 17 Critically comment on microbial growth kinetics.
- 18 Explain the chromatographic technique employed in downstream processing.
- 19 Explain the process of wine and beer production.
- 20 Explain the process and technique employed in cheese and yoghurt production.