LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc.DEGREE EXAMINATION – **ADVANCED ZOOLOGY AND BIOTECHNOLOGY**

SECONDSEMESTER – APRIL 2018

17/16UPB2AL01- APPLIED MICROBIOLOGY

Date: 28-04-2018　　　　　Dept. No.　　　　　　　　　Max. : 100 Marks
Time: 01:00-04:00

PART – A　　　　　　　　　**(10 x 2 = 20 Marks)**

Answer the following, each within 50 words.

1. List any 4 salient features of viruses.

2. What are prokaryotes?

3. Comment on normal growth curve.

4. What are competent cells?

5. Define 'scaling-up'.

6. What is meant by strain improvement?

7. What are biopolymers? Give any two examples.

8. Give the roles of vesicular arbuscularmycorrhizal fungi.

9. What is gratuitous metabolism?

10. Mention the methods to treat drinking water.

PART – B　　　　　　　　　**(5 X 7 = 35 Marks)**

Answer the following, each within 500 words; Draw diagrams and flowcharts wherever necessary

11. (a) Tabulate the classification of algae with its salient features.
　　　　　　　　　Or
　　(b) Give a brief account on major divisions of fungi with suitable examples.

12. (a) How are bacteria classified based on chemical requirements?
　　　　　　　　　Or
　　(b) Illustrate the mechanism of bacterial conjugation.

13. (a) Draw and describe the parts of the fermenter.
　　　　　　　　　Or
　　(b) Write notes on the substrates used in industrial fermentation.

14. (a) Discuss the methodology of cheese production.
　　　　　　　　　Or
　　(b) Write briefly on the types of biosensors.

15. (a) Briefly explain the direct and indirect methods of bioleaching.
　　　　　　　　　Or
　　(b) Explain the mechanism of biogas production.

PART – C (3 X 15 = 45 Marks)

*Answer **any three** of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary*

16. Mention the characteristic features of Gram-positive and Gram-negative bacteria with suitable examples.

17. Describe the ultra-structure of the bacterial cell.

18. Discuss the steps involved in downstream processing.

19. Write an essay on nitrogenous biofertilizer production.

20. Illustrate and explain the waste water treatment.

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