



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY**

**THIRD SEMESTER – APRIL 2019**

**16/17UPB3MC01 / PB 3510 – MICROBIOLOGY**

Date: 24-04-2019  
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

**PART- A**

**Answer the following, each within 50 words.**

**(10 x 2=20marks)**

1. Comment on the Bergey' s manual.
2. List out the parts of compound microscope.
3. Mention any two characteristics of a prokaryotic cell.
4. What is continuous culture.
5. What is glycolysis?
6. What are photo-organotrophs?
7. Expand HIV/AIDS
8. Define a vaccine.
9. What is meant by rhizosphere?
10. Define pasteurization.

**PART- B**

**Answer the following, each within 500 words. Draw diagrams wherever necessary.**

**(5 x 7=35 marks)**

11. (a) Explain the technique of Gram staining.

**OR**

- (b) Write short notes on the scopes of microbiology.

12. (a) What is an axenic culture? Explain the methods for the preservation of microbial cultures.

**OR**

- (b) Describe the ultrastructure of a bacteria.

13. (a) Write notes on Krebs' s cycle.

**OR**

- (b) What is the role of microbial enzymes in industry?

14. (a) Explain the structure of T4 bacteriophage.

**OR**

(b) Describe the etiology and treatment of Rabies virus.

15. (a) Explain the role of microbes in sewage water treatment.

**OR**

(b) What is biogeochemical cycle? Explain the nitrogen cycle in detail.

**PART- C**

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

**(3 x 15=45 marks)**

16. Enlist the general characteristics of microorganisms and add a note on six kingdom Carl Woese classification.

17. Write an essay on quantitative measurements of bacterial growth.

18. Compare the mechanism of transformation and conjugation in bacteria.

19. Describe the lytic and lysogenic cycle of a bacteriophage.

20. Explain the industrial production of lactic acid and vinegar.

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