

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



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

**FOURTH SEMESTER – APRIL 2016**

**PB 4508/PB 4504 – MICROBIOLOGY**

Date: 20-04-2016

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

**PART – A**

**Answer the following, each within 50 words only:**

**(10x2=20Marks)**

1. Write the contributions of Alexander Fleming.
2. Define pasteurization.
3. Mention the various phases of bacterial growth.
4. Give the significance of capsule.
5. Differentiate co-enzymes from cofactor.
6. Comment on transduction.
7. What are attenuated vaccines?
8. Write notes on virions.
9. Give the importance of VAM Fungi.
10. Define biogeochemical cycle.

**PART – B**

**Answer the following, each within 500 words only:**

**(5x7=35 Marks)**

**Draw diagrams wherever necessary**

11. a. Explain the principle and procedure of gram staining.  
(Or)  
b. Write a short note on Koch's postulates.
12. a. Describe how you would isolate a bacteria by serial dilution method.  
(Or)  
b. What is culture media? Explain its types with suitable example.
13. a. What are the salient features of anaerobic respiration?  
(Or)  
b. Give a brief account of enzyme characteristics and properties.
14. a. Write briefly about the cultivation of viruses.  
(Or)  
b. Discuss in detail about the morphology of Bacteriophage.
15. a. Write briefly about Nitrogen Cycle.  
(Or)  
b. Describe the industrial production of penicillin.

**PART – C**

**Answer any THREE of the following, each within 1200 words only:  
Draw diagrams wherever necessary**

**(3x15=45 Marks)**

16. What are the major characteristics of microorganisms?
17. Describe the ultrastructure of bacteria.
18. Illustrate and explain the types of conjugation in bacteria.
19. Describe the lytic cycle of bacteriophage.
20. Write a detailed note on:
  - a) Food Preservation methods
  - b) Industrial production of alcohol.

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