



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

**B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & PLANT BIO-TECH.**

**FOURTH SEMESTER – APRIL 2013**

**PB 4508/PB 4504 - MICROBIOLOGY**

Date: 02/05/2013  
Time: 1:00 - 4:00

Dept. No.

Max. : 100 Marks

**PART – A**

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

**(10X2 = 20 marks)**

1. Define vaccination, who invented it?
2. Comment on gram's stain.
3. What is an enrichment medium? Give one example.
4. What is Lyophilisation? Mention any two microbial culture centres.
5. What is fermentation? Differentiate between homo and heterofermentation.
6. Draw and label a Bacteriophage.
7. Classify Bacteria based on shape and arrangement.
8. What are Coliforms?
9. Differentiate between icosahedral and helical viruses, give examples
10. How does septic tank work in disposing sewage water?

**PART – B**

**Answer the following, each within 500 words. Draw diagrams wherever necessary: (5X7=35 marks)**

11. a). Describe the cell wall of bacteria

(OR)

b) Briefly write about any five applied areas of microbiology.

12. a) Write notes on various methods for maintenance and preservation of microbial culture.

(OR)

b). Classify bacteria based on requirement of PH, Oxygen and Food.

13. a) Explain conjugation in bacteria with the help of diagram

(OR)

b) Briefly write about methods used for cultivation of viruses.

14. a) Describe lytic cycle.

(OR)

b) Trace the biogeochemical cycle of phosphorus.

15. a) Write a note on VAM fungi.

(OR)

b) Explain Microbial spoilage of food and mention any four micro organisms involved in food Spoilage.

**PART – C**

**Answer any Three of the following, each with in 1200 words:**

**Draw diagrams wherever necessary:**

**(3X15=45 marks)**

16. Describe Griffith's experiment and explain transformation.
17. Describe the structure of virus classify it on the basis of structure and composition.
18. Trace the procedure for vinegar and alcohol preparation.
19. Give a detailed account of growth curve of bacterial culture. Explain the various methods used to determine bacterial growth.
20. Explain in detail the steps involved in sewage treatment, support your answer with diagrams.

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