LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

THIRD SEMESTER – NOVEMBER 2015

PB 3510 - MICROBIOLOGY

Date : 04/11/2015   Dept. No.   Max. : 100 Marks
Time : 09:00-12:00

PART – A

ANSWER THE FOLLOWING, EACH WITHIN 50 WORDS ONLY: **[10 x 2 = 20 marks]**

1. Highlight the contribution of Louis Pasteur.
2. State the principle behind Gram staining.
3. What are Autotrophs?
4. Define budding.
5. Comment on differential media.
6. Define the term 'holoenzyme'.
7. What is meant by bacterial transduction and who discovered it?
8. State the features of Pleomorphic viruses. Give an example.
9. What is BOD?
10. Write notes on pasturization.

PART –B

**ANSWER THE FOLLOWING, EACH ANSWER WITHIN 500 WORDS,
DRAW DIAGRAMS WHEREVER NECESSARY:**   **[5 x 7 = 35 marks]**

11. a) Explain Whittaker's classification of bacteria.

(OR)

   b) Name the important contribution to microbiology made by Robert Koch.

12. a) Define peptidoglycan and write a note on its chemical composition.

(OR)

   b) Explain the normal growth curve of bacteria.

13. a) Describe the process of conjugation.

(OR)

   b) Explain the Tricarboxylic Acid (TCA) cycle.

14. a) Describe the structure of a T4 phage.

(OR)

   b) Write a short note on Rabies vaccine.

15. a) Describe the methods involved in the production of Lactic acid.

(OR)

   b) Explain sulphur cycle with schematic representation.

PART –C

ANSWER ANY THREE OF THE FOLLOWING, EACH WITHIN 1200 WORDS,
DRAW DIAGRAMS WHEREVER NECESSARY: **[3 x 15 = 45 marks]**

16. Describe the working principles and applications of SEM.

17. Outline the methods involved in the isolation of pure cultures.

18. Give an account on microbial enzymes and their applications.

19. Explain in detail the process of replication in viruses.

20. With reference to waste water treatments describe the following:

    i) Trickling filter   ii) Activated sludge process   iii) Oxidation ponds.

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