



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

THIRD SEMESTER – APRIL 2017

PB 3510- MICROBIOLOGY

Date: 02-05-2017
09:00-12:00

Dept. No.

Max. : 100 Marks

Part - A

Answer the following, each within 50 words.

(10x2=20 marks)

1. Who is the father of microbiology? Mention his contributions.
2. What is Bergey's Manual used for?
3. Differentiate an autotroph from a heterotroph.
4. What is Generation time?
5. Mention any two microbial enzymes and their applications.
6. What do F⁺ and F⁻ cells refer to?
7. Define the term Bacteriophage. Give an example.
8. What are enveloped viruses?
9. What is activated sludge process?
10. Define the term 'Rhizosphere'.

Part – B

Answer the following, each within 500 words. Draw diagrams and flow charts wherever necessary

(5x7=35marks)

11. a) Write a short note on Spontaneous Generation of Organisms.
(OR)
b) List the major characteristics of microorganisms.
12. a) With reference to types of media for cultivation of bacteria answer the following -
i) Selective media ii) Differential media
(OR)
b) Classify bacteria based on their mode of nutrition.
13. a) Explain Embden-Meyerhof (glycolytic) pathway of glucose catabolism.
(OR)
b) Describe the process of generalized transduction.
14. a) Describe the structure of T₄ bacteriophage.
(OR)
b) Write a short note on types of vaccines and its production.
15. a) What is VAM? How is it beneficial to plants?
(OR)
b) Explain carbon cycle.

PART – C

Answer any three of the following, each within 1200 words. Draw diagrams and flow charts wherever necessary: **(3x15=45 marks)**

16. Explain the working principle and applications of TEM.
17. Elaborate on the modes of cell division in bacteria.
18. Describe the events that take place during conjugation in *E.coli*.
19. Give a detailed account on viral replication.
20. Explain in detail the structure and production of Penicillin.
