

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



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

FOURTH SEMESTER – NOVEMBER 2016

PB 4508/PB 4504 – MICROBIOLOGY

Date: 04-11-2016

Dept. No.

Max. : 100 Marks

Time: 01:00-04:00

PART A

Answer the following, each within 50 words only.

(10 x 2=20marks)

1. Mention the contributions of Louis Pasteur.
2. What is differential staining?
3. Comment on chemoautotrophs.
4. Define axenic culture.
5. Differentiate pili from flagella.
6. Mention the functions of DNA ligase.
7. What are enveloped viruses?
8. Give the functions of tail fibre.
9. List out the applications of VAM fungi.
10. What is rhizosphere?

PART B

Answer the following, each within 500 words.

Draw diagrams wherever necessary.

(5X 7=35marks)

11. a) Explain the contributions of Robert Koch.
(OR)
b) Mention the three domains used to classify micro organisms.
12. a) Explain the different shapes of bacteria with examples.
(OR)
b) Explain the normal sigmoid growth curve.
13. a) Write notes on bacterial conjugation.
(OR)
b) Explain transformation in bacteria.
14. a) Enumerate the general characteristics of viruses.
(OR)
b) Explain the T4 model of bacteriophage.
15. a) Explain briefly about the industrial production of alcohol by yeast.
(OR)
b) Elaborate the new techniques of food preservation.

PART C

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

(3x 15=45marks)

16. Enlist the applied areas of microbiology and add a note on its applications.
17. Describe the ultrastructure of bacteria.
18. What is genetic engineering? Elaborate on the roles of microbes in genetic engineering.
19. Do bacteriophages multiply-how?
20. Explain the nitrogen, carbon and sulphur cycle.
