



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
THIRD SEMESTER – NOVEMBER 2017

16UPB3MC01/PB 3510 - MICROBIOLOGY

Date: 04-11-2017
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

PART –A

Answer the following, each within 50 words.

(10x2=20 Marks)

1. Comment on acid fast staining.
2. Define a capsule.
3. What is specialized transduction?
4. Differentiate enveloped viruses from non-enveloped viruses.
5. What is nitrification?
6. Write a note on six kingdom classification.
7. Define cryopreservation.
8. Write the growth phases of *in vitro* culture.
9. What are F⁺, F⁻, fr⁺ and F'?
10. Write the importance of VAMF.

PART –B

(5 x 7=35 Marks)

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

11. a) State Koch's Postulates.
(OR)
b) Write about the process of endospore staining.
12. a) Write in brief the arrangement of bacterial cells. Give one example for each group.
(OR)
b) What are photoautotrophs? Explain with examples.
13. a) Name any four microbial enzymes and their applications.
(OR)
b) Explain anaerobic fermentation.
14. a) Briefly explain the methods followed in virus cultivation.
(OR)
b) Describe the morphology and structure of T4 phage.
15. a) Explain the methods of food preservation.
(OR)
b) Describe the industrial processes for vinegar production.

PART –C

(3x15=45 Marks)

Answer any Three of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary.

16. Elaborate on the methods of maintenance and preservation of pure cultures. Add a note on the advantages of such methods.
17. Describe differential staining with suitable example.
18. Explain the process of bacterial photosynthesis.
19. Give a detailed account on vaccine production methods.
20. Discuss in detail sewage treatment.

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