LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

THIRD SEMESTER – **APRIL 2023**

16/17/18UPB3MC01 – MICROBIOLOGY

Date: 02-05-2023 Dept. No. Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

PART – A

Answer the following, each within 50 words. (10 x 2 = 20 marks)

1. Give the contributions of Louis Pasture.
2. What is acid fast staining?
3. Comment on pili.
4. Mention the components of nutrient agar.
5. What are the applications of pectinase enzyme?
6. Give a brief note on RUBISCO.
7. Cite the importance of Hfr strain.
8. List the significances of transduction.
9. Draw the structure of a bacteriophage.
10. Write note on salient features of virus.

PART – B

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

(5 x 7= 35 marks)

11.(a) Describe Whitaker's 5 kingdom classification with examples

(or)

(b) Enumerate and explain the characters of microbes.

12. (a) Explain the batch and continuous culture technique.

(or)

(b) Describe the types of special medium.

13. (a) Bring out the details on the protease and amylase enzymes and their applications.

(or)

(b) With schematic diagram, explain glycolysis and ethanol formation.

14. (a) Highlight the details on the lysogenic life cycle of phages.

(or)

(b) Elaborate on the prokaryotic gene regulation using *lac* operon model.

15. (a) Describe the classification of animal virus according to Baltimore system of classification.

(or)

(b) Outline the procedure for vaccine production for viral diseases.

PART C

Answer **any three** of the following, each within 1200 words. Draw diagrams / flow charts wherever necessary. (3 x 15= 45 marks)

16. Elaborate on special staining followed for bacterial identification.
17. Explicate the classification of bacteria based on morphology.
18. Write detailed notes on the light reactions in prokaryotes and eukaryotes.
19. Illustrate and explain the process of bacterial transformation.
20. Write an essay on cultivation methods for viruses.

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