

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



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

THIRD SEMESTER – NOVEMBER 2019

16/17/18UPB3MC01 / PB 3510 – MICROBIOLOGY

Date: 29-10-2019

Dept. No.

Max. : 100 Marks

Time: 01:00-04:00

PART – A

Answer the following, each within 50 words only.

(10 x 2=20)

1. State the contributions of Robert Koch.
2. Comment on simple staining.
3. Give the structure of Flagella.
4. What are chemotrophs?
5. What is meant by competent cells?
6. What is ATP?
7. What is Plaque formation in virus?
8. How are capsomers arranged in TMV?
9. Define Commensalism.
10. What are Planktons?

PART – B

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

(5 x 7=35)

11. a) What is Acid Fast Staining and how it is useful?

(OR)

b) List the general groups of microorganisms with a brief note on each group.

12. a) Explain the classification of bacterial cells based on shape and plane of cell division.

(OR)

b) Explain the various methods to determine microbial growth.

13. a) Explain the biochemical reactions of anaerobic respiration.

(OR)

b) Write in brief the steps involved in dark reaction of photosynthesis.

14. a) Explain the techniques for cultivating animal viruses.

(OR)

b) How are animal viruses classified based on Baltimore method? Give examples.

15. a) Describe nitrogen cycle with reference to microbes.

(OR)

b) Write short notes on microbial spoilage of food.

PART – C

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

16) Write details on bacterial classification on Bergey's manual of systematic bacteriology.

17) Describe in detail the ultrastructure of bacteria.

18) Explain the process of conjugation types in bacteria.

19) Describe in detail the replication of viruses.

20) Explain the process of sewage waste water treatment.
