

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY & PLANT BIO-TECH.

FOURTH SEMESTER – APRIL 2010

PB 4508/PB 4504/PB 3500 - MICROBIOLOGY

Date & Time: 21/04/2010 / 9:00 - 12:00 Dept. No.

Max. : 100 Marks

PART – A (20 marks)
ANSWER ALL THE QUESTIONS

I. CHOOSE THE CORRECT ANSWER (5 X 1 = 5)

1. Microbe mediated solubilization of insoluble ores is called
a) bioleaching b) biosporation c) biodegradation d) biosorption
2. The viruses infecting blue green algae are called
a) Mycophages b) Cyanophages c) Bacteriophages d) Phytophages
3. Father of Microbiology is:
a) Alexander Fleming b) Robert Koch c) Louis pasteur d) Joseph Lister
4. The microorganism used in the lactic acid production is
a) *Bacillus* b) *Penicillium* c) *Aspergillus* d) *Lactobacillus*
5. The bacterial strain used by Griffith for his experiment is
a) *Streptococcus* b) *Pseudomonas* c) *Staphylococcus* d) *E.coli*

II. STATE THE FOLLOWING STATEMENTS TRUE OR FALSE (5 X 1 = 5)

6. All prokaryotes are included under monera.
7. Lytic phages are otherwise known as avirulent phages.
8. Protease and lipases are used in the formulation of detergents.
9. Transformation was discovered by Lederberg.
10. Methanotrophs are involved in activated sludge digester.

III. COMPLETE THE FOLLOWING (5 X 1 = 5)

11. The atmospheric nitrogen is fixed symbiotically by the bacterium_____.
12. _____type of ribosomes are Found in bacteria.
13. Catalytic sites of enzyme has got more of _____.
14. Toxin produced by *Aspergillus flavus* is _____.
15. The viral capsid is usually made of _____.

(P.T.O.)

IV. Answer ALL, each with in 50 words

(5 X 1 = 5)

16. What is Pasteurization?

17. Give the expansion of RUBISCO.

18. What is virion?

19. Define selective media.

20. What are plasmids?

PART – B

Answer any FIVE within 500 words. Draw necessary diagrams.

(5 x 7 = 35 marks)

21. a) Write about the cultivation of viruses.

(or)

b) Describe the light reaction of photosynthesis in bacteria.

22. a) Distinguish between Prokaryotes and Eukaryotes.

(or)

b) Give the methods for food preservation from microbial spoilage.

23. a) Classify bacteria based on shape and arrangement.

(or)

b) Describe the sequence of events during normal growth curve of bacteria.

24. a) Give an account of Nitrogen cycle.

(or)

b) Write the principle and method of Gram staining.

25. a) Bring out the commercial applications of microbial enzyme.

(or)

b) Describe the concept of phylogeny.

PART – C

Answer any THREE within 1,200 words. Draw necessary diagrams.

(3 x 15 = 45 marks)

26. What are the major characteristics used in the classification of microbes? Elaborate on any three of them.

27. What are pure cultures? Discuss the methods of isolation of pure cultures.

28. Discuss in detail the structure, types and classification of Bacteriophages.

29. Explain the process involved in waste water treatment.

30. Write detailed notes on the following

(i) Transduction (ii) Transformation

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