

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**B.Sc. DEGREE EXAMINATION – ADV.ZOOL.& BIOTECH.& CHEMISTRY**

**THIRD SEMESTER – NOVEMBER 2009**

**PB 3206 / 3200 - GENERAL MICROBIOLOGY**

Date & Time: 13/11/2009 / 9:00 - 12:00 Dept. No.

Max. : 100 Marks

**PART A (20 marks)**

Answer all questions

**I. Choose the correct answer**

**(5 x 1 = 5)**

1. Cell wall is made up of silica in the members of  
a) cyanophyceae b) euglenophyceae c) chlorophyceae d) bacillariophyceae
2. Cryopreservation involves  
a) storage at low temperature b) storage at optimum temperature  
c) storage for long period d) storage at very low temp using liquid nitrogen
3. In Prokaryotes, the lagging primers are removed by  
a) primase b) DNA ligase c) DNA polymerase I d) DNA polymerase
4. Mycoplasma was discovered by  
a) Stanley b) Nocard and Roux c) Ivanowsky d) Regi okazaki
5. Oxidation of sulphur is carried out by  
a) *Desulfovibrio* b) *Thiobacillus* c) *Pseudomonas* d) *Aeromonas*

**II. State whether the following statements are True or False**

**(5 x 1 = 5)**

6. *Saccharomyces* reproduces by budding.
7. Streptococcus is the name given to an irregular cluster of bacterial cells.
8. Isotopes used for proving semi-conservative replication of DNA are N<sup>14</sup> and P<sup>31</sup>.
9. *Xanthomonas citri* is a short, rod shaped monotrichous bacterium.
10. *Pseudomonas* is associated with nitrification.

**III. Complete the following**

**(5 x 1 = 5)**

11. The cell wall of fungi is made of \_\_\_\_\_.
12. \_\_\_\_\_ acts as genetic material in bacteria.
13. \_\_\_\_\_ is the product of the regulator gene.
14. Mycoplasmas are resistant to the cell wall attacking antibiotics like \_\_\_\_\_.
15. Primary treatment is a \_\_\_\_\_ process.

**IV. Answer the following each in about 50 words**

**(5 x 1= 5)**

16. What are coenocytic hyphae?
17. Define the term: lyophilisation
18. What are housekeeping genes?
19. Define phyllody.
20. What are vaccines? Give an example.

**PART B**

**Answer the following, each answer not exceeding 350 words. Draw diagrams and flow charts wherever necessary.**

**(5 x 7= 35)**

21. a. List out the characteristic of algae.  
(or)  
b. Elucidate the salient features of fungi.
22. a. Write notes on bacterial growth curve.  
(or)  
b. Briefly describe the structure of bacterial cell wall and cell membrane.
23. a. Give an account of structure and functioning of lac operon.  
(or)  
b. Discuss the organization of genetic material in *E. coli*.
24. a. Write notes on tobacco mosaic disease.  
(or)  
b. Discuss briefly about symptoms, stages and control of black rust disease.
25. a. Explain briefly about microbial enzymes.  
(or)  
b. Give an account of antibiotics.

**PART C**

**Answer any three of the following, each answer not exceeding 1200 words. Draw diagrams and flow charts wherever necessary.**

**(3 x 15= 45)**

26. Give an account on the salient features and classification of viruses.
27. Write an essay on pure culture techniques.
28. Describe the various types of gene transfer in bacteria.
29. Write notes on a) Citrus canker (8 marks) b) Little leaf of brinjal (7 marks)
30. Discuss in detail the methods used to prevent microbial spoilage of food.

\*\*\*\*\*