

**Avinashilingam Institute for Home Science and Higher Education for Women  
Coimbatore – 43**

**Master's Degree Examination – November 2017**

**1 Semester**

**Class: I PG  
Major: Botany**

**Time: 3hrs  
Max. Marks: 60**

**17MBOC01 – MICROBIOLOGY**

**Part – A**

**10×1/2=5**

**Choose the correct answer**

1. Double stranded DNA (dsDNA) is found in

- a. Herpes virus    b. Tobacco mosaic virus    c. Rheovirus    d. Coliphage virus

2. Bacteria having a tuft of flagella at one end are called as

- a. Monotrichous    b. Lophotrichous    c. Amphitrichous    d. Peritrichous

3. Pasteurization of milk involves heating for

- a. 10 minutes at about 60°C    b. 20 minutes at about 63°C    c. 30 minutes at about 63°C    d. 10 minutes at about 72°C

4. The commonly used stain in Gram staining is

- a. Hematoxylin    b. Acetocarmine    c. Crystal violet    d. Rhodamine

5. A symbiotic interaction in which one species benefits and the other species is not affected is called as

- a. Commensalism    b. Mutualism    c. Parasitism    d. Predation

6. Bacteria which directly converts atmospheric nitrogen into nitrogen compounds are called

- a. Denitrifying bacteria    b. Nitrogen fixing bacteria    c. Nitrifying bacteria    d. Putrifying bacteria

7. The microbe widely used in the removal of industrial waste is

- a. *Trichoderma* sp.    b. *Aspergillus niger*    c. *Pseudomonas putida*    d. *Arabidopsis thaliana*

8. Increase in the concentration of pollutants in higher trophic levels is known as

- a. Biomagnification    b. Biodegradation    c. Eutrophication    d. Recycling

9. The microorganism responsible for the ropy fermentation of milk is

- a. *Enterobacter aerogenes*    b. *Clostridium butyricum*    c. *Candida lipolytica*    d. *Pseudomonas fluorescens*

10. Rennet is used in

- a. Bread making    b. Fermentation    c. Cheese making    d. Antibiotic synthesis

**PART - B**

**5×4 = 20**

**Answer all questions**

**Each answer should not exceed 200 words or one page**

- 11.a. Give a concise account on the general morphology of different types of viruses.  
(Or)
- 11.b. Differentiate Gram positive and Gram negative bacterium on the basis of cell wall structure and composition.
- 12.a. Comment on Pasteurization. Add a note on their practical applications. (Or)
- 12.b. What are dyes? Classify their types.
- 13.a. Describe mutualism with suitable examples. (Or)
- 13.b. Comment on the significance of nitrogen fixation.
- 14.a. Write short notes on activated sludge process. (Or)
- 14.b. Give a concise account on biodegradation of pesticides.
- 15.a. Give a detailed account on spoilage of food. (Or)
- 15.b. Write a note on the industrial production of ethyl alcohol.

**PART - C**

**5×7=35**

**Answer all questions**

**Each answer should not exceed 600 words or three pages**

- 16.a. Briefly outline the nomenclature and general classification of viruses.  
(Or)
- 16.b. Enumerate on the process of sexual reproduction in bacteria with neat sketches.
- 17.a. Write an essay on the various chemical agents used for the control of the microorganisms.  
(Or)
- 17.b. Describe the methods of isolating pure cultures of an organism and add a note on its significance.
- 18.a. Write a detailed note on the special features of Diazotrophs.  
(Or)
- 18.b. Why is symbiotic nitrogen fixation relationship so important for the enhancement of soil fertility – Discuss.
- 19.a. Discuss how sewage is treated. Explain with suitable examples.  
(Or)
- 19.b. What is Bioremediation? Discuss the essential role of microorganisms involved in the biodegradation of environmental pollutants.
- 20.a. What is food preservation? Explain the various methods of food preservation.  
(Or)
- 20.b. Narrate on the commercial production methods of penicillin with schematic sketches.

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