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**DHANALAKSHMI SRINIVASAN COLLEGE  
OF ARTS & SCIENCE FOR WOMEN  
(AUTONOMOUS)**

(For Candidates admitted from 2020-2021 onwards)



**PG DEGREE EXAMINATIONS APRIL - 2021**

**M.Sc., - MICROBIOLOGY**

**ENVIRONMENTAL AND AGRICULTURAL MICROBIOLOGY**

**Time: 3 Hrs**

**Max.Marks: 75**

**PART - A**

**CHOOSE THE CORRECT ANSWER**

**(10X1=10)**

1. What is called for the mixture of all the contents of soil?  
a) Erosion                      b) Sublimation                      c) Degradation                      d) Loams
2. The source of carbon to plants in the carbon cycle is \_\_\_\_\_  
a) Fossil fuels                      b) Carbonate rocks                      c) Atmospheric carbon dioxide  
d) all of the above
3. Chlorofluorocarbon are non-flammable chemicals mainly used in \_\_\_\_\_  
a) Perfumes                      b) refrigerators                      c) Air conditioners                      d) All of the above
4. Which of the following is called the secondary air pollutant?  
a) PANs                      b) ozone                      c) Carbon monoxide                      d) Nitrogen di oxide
5. Which of the following substrate for biogas production?  
a) E-waste                      b) metallic waste                      c) Municipal & residential waste                      d) Gaseous effluents
6. This is not an indigenous microbe used for bioremediation \_\_\_\_\_  
a) Pseudomonas aeruginosa                      b) Piscirickettsia salmonis  
c) Phanerochaete sordida                      d) E.coli
7. The water vapour present in the unit volume of air is called \_\_\_\_\_  
a) Relative humidity                      b) static humidity                      c) Absolute humidity                      d) total humidity
8. The dominant mineral particles in most soils are compounds of \_\_\_\_\_  
a) Sodium                      b) potassium                      c) Magnesium                      d) iron
9. Which of the following shows the absence of chlorophyll 'b'  
a) Green algae                      b) red algae                      c) Blue green algae                      d) brown algae
10. VAM is \_\_\_\_\_  
a) Bio insecticide                      b) Bio herbicide                      c) Ectomycorrhiza                      d) Endomycorrhiza

**PART- B**

**ANSWER ALL THE QUESTIONS**

**(5X7=35)**

11. a) Write a brief account of types and structure of soil?

**(OR)**

b) Explain in detail the Carbon cycle?

12. a) List out water borne diseases and their causative agent?

**(OR)**

b) Write a brief account on microbes in Air droplet nuclei?

13. a) Write a short note on Composting?

**(OR)**

b) Briefly explain the microbes in mineral leaching?

14. a) Describe the structure and function of Agro ecosystem?

**(OR)**

b) Explain the role of microbes in crop production?

15. a) Write a note on production and application of Rhizobium?

**(OR)**

b) Comment on role of Mycorrhizae?

**PART - C**

**ANSWER ANY THREE QUESTIONS**

**(3X10=30)**

16. Write a detailed account of soil microbes and their activities?

17. Discuss in detailed about the microbial assessment of water quality?

18. Explain in detail about the various methods of biogas production?

19. Describe the harmful role of microbes in agro ecosystem?

20. Discuss about phosphate solubilizing and utilizing bacteria in blue green algae?