

**THIRD SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
NOVEMBER 2020**

Microbiology

MBY 3B 04—ENVIRONMENTAL AND SANITATION MICROBIOLOGY

(2014 Admissions)

Time : Three Hours

Maximum : 80 Marks

Section A

*Answer all questions.
Each question carries $\frac{1}{2}$ mark.*

1. Fertility of ocean means _____.
2. Outer most layer of earth's atmosphere is called _____.
3. Anaerobic sludge digestion will produce _____ gas which can be used as a fuel.
4. Most Probable Number method is used to _____.
5. Barophilic organisms normally live in deep sea because they require _____.
6. Write the expansion of 'HEPA' filter.
7. Settle plate method is used for _____.
8. Ozonation is a method of _____ during water purification.
9. Buffer zone between warmest and coolest layer of a deep lake is called _____.
10. Red tide is due to the accumulation of Cyanobacterium _____.
11. Define droplet nuclei.
12. Upwelling means _____.

(12 × $\frac{1}{2}$ = 6 marks)

Section B

*Answer all questions.
Each question carries 2 marks.*

13. What is meant by Bio aerosols ?
14. Comment on Estuary.
15. Define Microbial Consortia.

Turn over

6. Define COD.
7. What is meant by Persistent organic pollutants ?
8. What is meant by residual chlorine ?
9. Define biomagnification.
10. Differentiate between Litoral and limnetic zone of aquatic systems.
11. Comment on phytoplankton of aquatic environment.
12. Define Eutrophication.

(10 × 2 = 20 marks)

Section C

*Write short note on any **six** of the following.
Each question carries 5 marks.*

1. Briefly discuss the air sampling methods.
2. What is meant by bioremediation ? Discuss with a suitable example.
3. Discuss briefly about the sources of microorganisms in air.
4. Discuss briefly the role of microorganisms in corrosion of metals. List the methods of prevention of metal corrosion.
5. What is meant by activated sludge system? Briefly discuss the process.
6. Pulmonary anthrax is an airborne infection. Discuss.
7. Discuss the Primary treatments of waste water before its disposal.
8. Briefly discuss the reasons due to which an organic chemical becomes recalcitrant..

(6 × 5 = 30 marks)

Section D

*Answer any **two** of the following questions.
Each question carries 12 marks.*

1. What is meant by indicator organisms ? Why they are important for water quality analysis? Discuss the important characters that have to be present to accept one as an indicator organism
2. Discuss the influence of various physical factors on the growth and distribution of microorganisms in aquatic environment.
3. Discuss briefly about various methods of municipal solid waste management.

(2 × 12 = 24 marks)