

D 51767

(Pages : 2)

Name.....

Reg. No.....

**THIRD SEMESTER (CBCSS—UG) DEGREE EXAMINATION
NOVEMBER 2023**

Microbiology

MBG 3B 03—ENVIRONMENTAL AND SANITATION MICROBIOLOGY

(2019—2022 Admissions)

Time : Two Hours and a Half

Maximum : 80 Marks

*Wherever needed answers must be supported by structural illustration and diagrams.***Part A***Answer **all** questions in one **or** two sentences.**Each question carries 2 marks.*

1. Aerosol.
2. Hirst spore trap.
3. Indicator microorganisms.
4. COD.
5. Eutrophication.
6. Methanogenesis.
7. Trickling filter.
8. Biofilm.
9. PCBs.
10. Biochemical oxygen demand.
11. Bioaugmentation.
12. Alkyl benzyl sulphonate.
13. Superbug.

Turn over

14. Water borne diseases.
15. Sulphur leaching.

(Ceiling 25 Marks)

Part B

Answer all questions.

Each question carries 5 marks.

16. What are the major layers present in aquatic ecosystems ? Discuss.
17. Discuss the advantages and disadvantages of major air sampling devices.
18. Outline the principles and methodology involved in MPN techniques.
19. Illustrate the steps involved in the purification of municipal water.
20. Formulate the principles, methodology and applications of vermi-composting.
21. Elaborate the design and management of biogas plant.
22. Prioritize the scope of biomagnifications in xenobiotic metabolism.
23. What are the major principles and approaches involved in the bioremediation of oil spills ?

(Ceiling 35 Marks)

Part C

Answer any two questions in details.

24. What do you mean by indicator micro-organisms ? Investigate the major approaches used to study the microbiological quality of water.
25. Illustrate the major steps involved in the treatment of municipal water.
26. Discuss the mechanisms of the biodegradation of xenobiotic compounds with suitable examples.
27. Investigate the scope and application of anaerobic sludge digester and vermi-composting in solid waste management.

(2 × 10 = 20 marks)