

M.Sc. 3rd Semester Examination, 2022

**MICROBIOLOGY**

*(Environmental Microbiology-II)*

PAPER – MCB-304(CBCS)

*Full Marks : 40*

*Time : 2 hours*

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

Answer any *four* questions of the following :  $2 \times 4$

1. What is BOD ?
2. Define sewage and sludge.
3. Define Bioventing.
4. What is meant by bioconcentration factor ?

5. What are reservoirs of pathogenic organisms ?
6. What is floc ?
7. What is vermicompost ?
8. What do you mean by GM crop ? Give one example.

Answer any *four* questions of the following :  $4 \times 4$

9. What are the health hazards associated with PCB.
10. Write the process of biodegradation of TNT.
11. What do you understand by Eutrophic, and Oligotrophic lakes ? Mention the ecological consequences of eutrophication.  $2 + 2$
12. Why secondary wastewater treatment is considered as biological treatment ? What is water disinfection ?  $2 + 2$

13. How can disease be spread through contact transmission ?

14. Write a note on Bt toxin.

15. What is biofertilizer ? Discuss about different types of biofertilizer. 1 + 3

16. Discuss the advantages of biopesticide.

Answer any *two* questions of the following : 8 × 2

17. Describe the process of trickling filtration. What is anaerobic digester ? State the sequential reactions that take place within anaerobic digester. 3 + 1 + 4

18. What do you mean by nosocomial infection ? Why are they becoming a threat to human society ? Distinguish between bacterial and viral STIs. 2 + 2 + 4

19. Write short notes on (any four) : 2 × 4

(i) PCB biodegradation

(ii) Composting

(iii) MPN test

(iv) Solid waste segregation

(v) Anammox process.

20. Critically discuss the biosafety concerns regarding the usage of GM crop. 8

