

QP Code : P24A027

Reg. No :

Name :

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

I SEMESTER M.Sc. (CBCSS-PG) DEGREE EXAMINATION, November 2024

M Sc Microbiology

MBG1C03 : Environmental and Sanitation Microbiology

2024 Admission Onwards

Time : 3 Hours

Maximum Weightage : 30

Part A

*Short answer type questions: Answer **any four** questions. Weightage 2 for each question*

1. What are the steps involved in the iron cycle? [BTL1]
2. Define Droplet nuclei. [BTL2]
3. What is the difference between flocculation and coagulation techniques in water purification? [BTL4]
4. What are the major causes of marine pollution? [BTL2]
5. Discuss the role of human activities in increasing the Green house effect. [BTL3]
6. Compare and contrast between Niche and Habitat. [BTL4]
7. Compare droplet nuclei and bioaerosol. [BTL4]

(4x2 = 8 Weightage)

Part B

*Short essay-type questions: Answer **any four** questions. Weightage 3 for each question*

8. Describe the structure and composition of a mature biofilm. [BTL3]
9. Analyse the role of chlorination in removing pathogens and the formation of disinfection byproducts. [BTL4]
10. Identify the mechanism of air sanitation by chemicals, its advantages and disadvantages. [BTL3]
11. Discuss Landfilling, its advantages and shortcomings in solid waste management. [BTL3]
12. Describe various steps involved in Nitrogen cycle. [BTL2]
13. Evaluate the use of metagenomics in environmental monitoring of soil. [BTL5]
14. What are the stages of secondary succession and it's role in ecosystem balance? [BTL2]

(4x3 = 12 Weightage)

Turn Over

Part C

*Essay-type questions: Answer **any two** questions. Weightage 5 for each question*

15. Explain about indicator microorganisms and their significance in water quality testing. Comment on the role of MPN in testing water portability. [BTL2]
16. Explain advanced methods of air sampling. Identify its advantage over conventional method. [BTL3]
17. Elaborate briefly on the biodegradation of xenobiotics. [BTL3]
18. Write an essay on various types of microbial interactions in the environment with examples. [BTL1]

(2x5 = 10 Weightage)

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