QP Code: PV25DRSI001

Reg. No : .....

Name : .....

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

I SEMESTER (CBCSS - VPG) DEGREE EXAMINATIONS, OCTOBER 2025

(Regular/Improvement/Supplementary)

M. Voc. Applied Biotechnology

GEC1AB01 : MICROBIOLOGY

2024 Admission Onwards

Time:3 Hours **Maximum Weightage:30**

Part A

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

(4x2 = 8 Weightage)

1. Compare chemically defined media and complex media in terms of composition, uses and limitations.
2. State microbial nutrient stress response.
3. Describe the characteristics and types of extremophiles.
4. Explain the biochemical methods used for Microbial classification.
5. Compare and contrast the Spread plate and Pour plate techniques in terms of their application and results.
6. Assess the overall impact and future potential of Proteobacteria in industrial applications.
7. Evaluate the statement: “Blocking attachment is the most effective way to stop viral diseases.

Part B

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

(4x3 = 12 Weightage)

8. Describe the role of chemical parameters in microbial growth.
9. Describe how pigment production can help in differentiate bacterial species.
10. Evaluate the effectiveness and safety of UV radiation compared to those of chemical sterilizers for controlling microbial growth in food processing environments.
11. Compare the Bacteroidetes enzymatic pathways for carbohydrate digestion with other gut microbes. Also, comment on its benefits in the gut over another gut microflora.

Turn Over

12. How would you use Prion properties for Creutzfeldt-Jakob disease. What features of Prions would be crucial for this test?
13. Determine the steps involved in the Cryopreseration of pure culture. Write on the factors that must be considered to ensure it's viability?
14. Analyze the role of three-domain system of classification in evolutionary relationships among prokaryotes and eukaryotes.

Part C

*Essay-type questions: Answer **any two**. Weightage **5** for each.*
(2x5 = 10 Weightage)

15. Evaluate the effectiveness of global health strategies in controlling the spread of highly transmissible human virus.
16. Cladograms have a common ancestor at base. Explain.
17. How would you use the Most Probable Number(MPN) method to estimate the bacterial population in a water sample?
18. Compare oxygen requirements of Firmicuites and Chlorobium.

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