QP Code: U25DR006

Reg. No : .....
Name : .....

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

I SEMESTER (FYUGP) DEGREE REGULAR EXAMINATIONS, NOVEMBER 2025
BTY1MN101 : Introductory Biology
2025 Admission Onwards
(Credits: 4)

Time: 2 Hours **Maximum Marks: 70**

Section A

*Answer **all**. Each question carries **3** Marks.* ***(Ceiling: 24 Marks)***

1. What is the function of the mitochondria?
2. What is the main purpose of using PCR in a biological experiment?
3. What is a hydrogen bond? How does it contribute to the properties of water?
4. Name one natural and one artificial method of gene transfer.
5. Give two examples of applications of Biotechnology in medicine.
6. What is recombinant DNA technology?
7. Describe different types of DNA and their properties.
8. What is cell signalling and its types?
9. List the three domains of life and provide one characteristic of each.
10. Why is Nitrogen important for living organisms?

Section B

*Answer **all**. Each question carries **6** Marks.* ***(Ceiling: 36 Marks)***

11. Compare the processes of transcription and translation.
12. Explain the unique properties of water and how they support life processes.
13. Analyze the outcome of cell division errors during mitosis.
14. Explain the different types RNA.
15. How does the use of fermentation technology in Industrial Biotechnology contribute to sustainable development? Analyze its environmental and economic benefits.
16. Suggest how biotechnology can be applied in solving environmental pollution problems.

Turn Over

17. Explain the process of DNA replication.
18. How would you use a microscope to differentiate between prokaryotic and eukaryotic cells?

Section C

Answer ***any one***. ***(1x10=10marks)***

19. What are viruses ? How are they classified ? Discuss the structure and replication of viruses.
20. Evaluate the use of genetically modified crops in addressing global food security considering both benefits and concerns.

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