Third Semester B.Sc. Degree Examination, October/November 2019

(CBCS Semester Scheme)

Microbiology

Paper MBT 3.3 – MICROBIAL METABOLISM, MICROBIAL GENETICS AND BIOSTATISTICS

Time : 3 Hours]

[Max. Marks : 90

Instructions to Candidates :

1. *Answers ALL parts.*
2. *Draw diagrams wherever necessary.*

PART – A

Answer any **TEN** of the following :

$(10 \times 2 = 20)$

1. Importance of carbohydrates

2. Isozymes

3. Phospholipids

4. Entropy

5. NAD

6. Green bacteria

7. Anaerobic respiration

8. II law of thermodynamics

9. B-DNA

10. Replication fork

11. Median

12. Population.

PART – B

Answer any **EIGHT** of the following :   **(8 × 5 = 40)**

13. Explain Michelis-Menten equation.

14. Write a note on properties of proteins.

15. Explain standard free energy change.

16. Write a note on photosynthetic apparatus in bacteria.

17. Explain :
    (a) chemoorganotrophs
    (b) Closed system

18. Write a note on :
    (a) Oxidative phosphorylation
    (b) DNA replicative enzymes

19. Explain Griffith's experiment.

20. Write a note on detection of mutagens by replica plate technique.

21. Explain measures of central tendency with respect to mean.

22. Write the difference between histogram and bar graph.

    Draw histogram for the following data :

Age :	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of Students :	5	7	10	15	13	10	6

PART – C

Answer any **THREE** of the following :   **(3 × 10 = 30)**

23. Explain Allosteric regulation in detail.

24. Describe photosynthesis in purple bacteria.

25. Describe TCA cycle and add a note on its importance.

26. Describe the methods of transduction in bacteria.

27. Explain the methods of classification of data.