K16U 2119

Reg. No. : .....

Name : .....

III Semester B.Sc. Degree (CBCSS – Reg./Supple./Imp.) Examination, November 2016
(2014 Admn. Onwards)
CORE COURSE IN MICROBIOLOGY
3B03 MCB : Microbial Physiology

Time : 3 Hours

Max. Marks : 40

Instruction : *Draw diagrams* ***wherever*** *necessary.*

SECTION – A

Answer **all** questions. **Each** carries **1** mark.

1. Micro-organisms that grow best below pH 5.5 are called _____
2. A mutant strain of bacteria that lacks the ability to synthesize an essential nutrient is called _____
3. In cyanobacteria the nitrogen fixation is compartmentalised in special type of cells called _____
4. The cofactor present in nitrogenase involved in nitrogen fixation is _____ **(4×1=4)**

SECTION – B

Answer **any seven** of the following. **Each** carries **2** marks.

5. Trace elements
6. Turbidostat
7. Acetogens
8. Assimilative sulphate reduction.
9. Generation time
10. Denitrification

P.T.O.

11. Breed's count

12. Hyper thermophile

13. Phycobilisome

14. Nif gene. **(7×2=14)**

SECTION – C

Answer **any four** of the following. **Each** carries **3** marks.

15. Methods for measurement of bacterial growth.

16. Microbial decomposition of hydrocarbon.

17. Free living nitrogen fixing bacteria.

18. Nitrifying bacteria.

19. Binary fission.

20. Nutritional classification of bacteria. **(4×3=12)**

SECTION – D

Answer **any two** of the following. **Each** carries **5** marks.

21. Discuss various factors influencing microbial growth.

22. Describe various phases of bacterial growth curve in a closed system. Write a note on synchronous growth.

23. Define methanogenesis. Describe the pathway of methanogenesis from CO_2 and H_2.

24. Compare and contrast photosynthetic electron flow in cyanobacteria and purple bacteria. Describe Calvin cycle. **(2×5=10)**
