

Ayane Miss.
3016.

K18U 1909



Reg. No. :

Name :

III Semester B.Sc. Degree (CBCSS – Reg./Sup./Imp.)

Examination, November 2018

(2014 Admn. Onwards)

CORE COURSE IN MICROBIOLOGY

3B 03 MCB : Microbial Physiology

Time : 3 Hours

Max. Marks : 40

Instruction : Draw diagrams wherever necessary.

SECTION – A

Answer all questions. Each question carries 1 mark.

1. Organisms capable of growing with CO_2 as sole carbon source are called _____
2. The microorganisms optimally growing at very low pH conditions are called _____
3. *nifD* and *nifK* sequences encode for α and β subunits of _____ enzyme complex.
4. The process of oxidation of NH_3 by obligately anaerobic bacteria is known as _____ (4×1=4)

SECTION – B

Answer very briefly on any seven of the following. Each question carries 2 marks.

5. Chemostat.
6. Free living nitrogen fixers.
7. Piezophiles.
8. Micronutrients.

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9. Generation time.
10. Carboxysomes.
11. Acetogenesis.
12. Associative symbiosis.
13. Anaerobic respiration.
14. *Ralstonia eutropha*.

(7×2=14)

SECTION – C

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

15. Methods for measuring microbial growth.
16. Reproduction in bacteria.
17. Halophiles.
18. Chemolithotrophy.
19. Iron-oxidizing bacteria.
20. Calvin cycle.

(4×3=12)

SECTION – D

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

21. Define methanogens. Discuss the mechanisms of methanogenesis by Archaeobacteria.
22. Write a note on nitrogen fixation by Rhizobia.
23. Write a note on photosynthetic pigments in bacteria. Describe cyclic photophosphorylation in purple bacteria.
24. Discuss the influence of temperature on microbial growth. Write note on microorganisms growing in extremes of temperature.

(2×5=10)