



K22U 3641

Reg. No. :

Name :

**Third Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, November 2022
(2019 Admission Onwards)**

**CORE COURSE IN MICROBIOLOGY
3B03MCB : Microbial Physiology and Metabolism**

Time : 3 Hours

Max. Marks : 40

PART – A

Short answer question. Answer **all** questions.

(6×1=6)

1. Define acetogenesis.
2. Explain psychrophile.
3. Explain synchronous culture.
4. Give any two examples for nitrite oxidizing bacteria.
5. Define β -oxidation.
6. Define saprophytic bacteria.

PART – B

Short essay. Answer **any 6** questions.

(6×2=12)

7. What is transamination reaction ?
8. Explain binary fission.
9. Write a short note on carbon dioxide fixation.
10. What is a heterotrophic organism ?
11. Why is the citric acid cycle also known as TCA cycle ?
12. Comment on methanogenic bacteria.
13. Briefly write the role of bacteria in iron oxidation.
14. How does bacteria respond to hydrostatic pressure ?

P.T.O.



PART – C

Essay. Answer **any four** questions.

(4×3=12)

15. Write briefly on the nutritional classification of bacteria.
16. Differentiate oxygenic and anoxygenic photosynthesis.
17. Outline the PP pathway.
18. Explain bacterial growth curve.
19. Briefly explain ATP production by chemolithotrophs.
20. Write a note on the role of bacteria in nitrogen cycle.

PART – D

Long essay. Answer **any two** questions.

(2×5=10)

21. Elaborate Calvin cycle.
 22. Compare and contrast cyclic and non-cyclic photophosphorylation.
 23. Explain the various methods of measurement of population growth.
 24. Write an essay on anaerobic respiration with respect to alcohol fermentation.
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