

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION  
NOVEMBER 2013**

(UG – CCSS)

Microbiology [Core Course]

MB 5B 08 – MICROBIAL PHYSIOLOGY

Time : Three Hours

Maximum : 30 Weightage

**Part A***Choose the correct answer from the following.**Each question carries ¼ weightage.*

1. Micro-organisms which require high salt for their growth are called :  
(a) Halophiles. (b) Barophiles.  
(c) Thermophiles. (d) None of the above.
2. Organisms which use reduced inorganic compounds as electron donors are :  
(a) Organotrophs. (b) Lithotrophs.  
(c) Both (a) and (b). (d) None of the above.
3. Passive diffusion differ from facilitated diffusion by the :  
(a) Absence of carrier protein. (b) Involvement of carrier proteins.  
(c) Utilisation of energy. (d) None of the above.
4. A spectrophotometer can be used to measure :  
(a) Bacterial cell viability. (b) Turbidity of cell mass.  
(c) Both (a) and (b). (d) None of the above.

Fill in the blanks of the following :

5. High acidity is a requirement for the growth of \_\_\_\_\_
6. Growth in a cell population in which all cells divide at same time is known as \_\_\_\_\_
7. Transport process characterised by the utilisation of ATP is called \_\_\_\_\_
8. An organism which can grow well under both aerobic and anaerobic condition is called \_\_\_\_\_

Turn over

Answer in single word of the following :

9. An organism which need special nutrient factors and is difficult to culture is known as.
10. The method which can be used to determine the number of viable bacteria in a large volume of sample is.
11. Diauxic growth is due to.
12. Bacterial reproduction by fragmentation is seen in.

(12 x 3 = 36 weightage)

### Part B

*Explain all the following **nine** questions.*

*Each question carries 1 weightage.*

13. Thermophiles.
14. CFU.
15. Cardinal temperature.
16. Significance of lag phase of growth curve.
17. Chemolithotrophs.
18. Generation time.
19. Plaque assay.
20. Membrane filter count.
21. Passive transport.

(9 x 1 = 9 weightage)

### Part C

*Write short essay on any **five** questions from the following.*

*Each question carries 2 weightage.*

22. Nutritional types of bacteria.
23. Quantitative measurement of bacterial growth.
24. Bacteriophage nutrition.
25. Diauxic culture.
26. Views cultivation,
27. Bacterial photosynthesis.
28. Reproduction in Bacteria.

(5 x 2 = 10 weightage)

**Part D**

*Write essay on any two questions from the following.*

*Each question carries 4 weightage.*

29. Explain bacterial growth curve.
30. Explain the factors affecting microbial growth.
31. Explain transport of nutrients by bacteria.

(2 x 4 = 8 weightage)

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