

M. Sc. DEGREE EXAMINATION - NOVEMBER 2022  
BIOTECHNOLOGY  
FIRST SEMESTER

COURSE : CORE  
PAPER : MICROBIOLOGY  
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS:

(10 x 2 = 20)

1. In a standard bright field microscope, light travels from the source of illumination through the condenser and finally to the \_\_\_\_\_. Total magnification is \_\_\_\_\_ X \_\_\_\_\_.
2. A cover slip is placed over the specimen to protect the lens from the mounting medium and to flatten the \_\_\_\_\_ this is mainly used in \_\_\_\_\_ preparation.
3. Colchicine is a \_\_\_\_\_ inhibitor
4. Bergey's manual of systematic Bacteriology is the main resource for determining the \_\_\_\_\_ of prokaryotic organisms and molecular identification is through \_\_\_\_\_
5. *Phanerochaete chrysosporium* is an example of \_\_\_\_\_ and \_\_\_\_\_ is an example of protozoa.
6. What is a dendrogram?
7. List any four bacterial culture media.
8. What is the mode of transmission of Leptospirosis?
9. List any three benefits of probiotics.
10. List any three uses of Vitamin B12 and name an organism which is used for its commercial production.

SECTION – B

ANSWER ALL THE QUESTIONS:

(5x 8 = 40)

11. (a) Write short notes on Phase contrast microscopy.  
(or)  
(b) Write short notes on Scanning electron microscopy.
12. (a) Write briefly the process of reproduction in fungi.  
(or)  
(b) Write briefly the aspects of algae and its classification.
13. (a) Mention the procedure for enumeration of microorganisms in the laboratory.  
(or)  
(b) List the stages/ phases of bacterial growth curve and explain the calculation of growth.
14. (a) Explain the pathophysiology of Dysentery and its prevention and control.  
(or)  
(b) Draw the label the parts of Human Immunodeficiency Virus (HIV) and explain the pathogenesis.
15. (a) What are prebiotics? List any three criteria that classifies a prebiotics.  
(or)  
(b) Write a brief note on the large-scale production of citric acid.

**SECTION – C****ANSWER ANY TWO QUESTIONS:****(2 X 20 = 40)**

16. Explain in detail on the classification of bacteria based on biochemical differences and numerical taxonomy.
17. Explain the general properties and life cycle of viruses in detail.
18. Explain three different bacterial culture media and list the ingredients involved and discuss the physical and chemical methods of microbial control.
19. Discuss in detail any one of the respiratory tract diseases with emphasis to method of Transmission, prevention, control and life cycle.

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