

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BS: DEGREE EXAMINATION DECEMBER 2022  
(First Semester)

Branch -- BOTANY

MICROBIOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. Choose the person, who observed the bacteria at first time.  
(i) Anton von Leeuwenhoek                      (ii) Robert Koch  
(iii) W.H. Staly                                      (iv) Luis Pasteur
2. In bacteriophage, the genetic material is -  
(i) RNA                      (ii) DNA                      (iii) both of these                      (iv) Plasmid
3. Bacteria obtaining energy from the oxidation of inorganic substances are called  
(i) chemolithotrophs                      (ii) photolithotrophs  
(iii) photo-organotrophs                      (iv) chemo-organotrophs
4. The cell wall of fungi is composed of  
(i) hemicellulose      (ii) chitin                      (iii) cellulose                      (iv) cutin
5. The circular depression on the lower side of the lichen is called  
(i) breathing pores                      (ii) cyphellae  
(iii) isidia                      (iv) cephalodia

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

6. a) Bring out the important characters of micro organisms.  
(OR)  
b) State Koch's postulates.
7. a) Explain the mode of viral transmission.  
(OR)  
b) Describe the structure of typical bacterial viruses.
8. a) How do you determine bacterial population?  
(OR)  
b) Show the types and importance of differential staining.
9. a) Describe the general characters of fungi  
(OR)  
b) Explain the asexual reproduction structure of *Albugo*.
10. a) Summarise the economic importance of fungi.  
(OR)  
b) Classify the types of lichens.

Cont...

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

11. a) Discuss the culture methods of bacteria.  
(OR)  
b) Examine the types and significance of sterilization in microbial laboratory.
12. a) Analyze the structure and multiplication in TMV.  
(OR)  
b) Trace the structure and reproduction in bacteriophage.
13. a) Elucidate the ultra-structure of bacterial cell.  
(OR)  
b) Enumerate methods of reproduction in bacteria.
14. a) Outline the sexual reproduction in *Agaricus*.  
(OR)  
b) Analyse the reproduction in yeast.
15. a) Discuss the life cycle of *Ustilago*.  
(OR)  
b) Illustrate the external morphology of lichens thallus.

Z-Z-Z END