

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2022  
(Second Semester)

Branch – APPLIED MICROBIOLOGY

ENVIRONMENTAL & AGRICULTURAL MICROBIOLOGY

Time: Three Hours

Maximum: 50 Marks

**SECTION-A (5 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 An association between two individuals or population where both are benefitted --  
-----  
(i) Commensalism (ii) Mutualism  
(iii) Competition (iv) proto-co operation
- 2 TB spread by -----  
(i) Droplet nuclei (ii) Aerosols  
(iii) Both i and ii (iv) None of the above
- 3 Uptake and transpiration of contaminants by plants is called as -----  
(i) Phytovolatilization (ii) Phytodegradation  
(iii) Phytostabilization (iv) None of the above
- 4 Which form of Sulphur is most usable by both microorganisms and plants?  
(i) H<sub>2</sub>S (ii) Elemental Sulphur  
(iii) Sulfate (iv) Sulphite
- 5 Azolla as biofertilizers increases the yield of rice fields by -----  
(i) 20% (ii) 40%  
(iii) 10% (iv) 50%

**SECTION - B (15 Marks)**

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Explain in detail about synergism with examples.  
OR  
c Explain about the role of root exudates in rhizosphere interactions.
- 7 a Explain in detail about Eutrophication.  
OR  
b Write in brief about air borne pathogens with examples.
- 8 a Explain about bioremediation.  
OR  
b Explain the process of biodetermination of weather.
- 9 a Explain the biogeochemical cycles of sulfur.  
OR  
b Write in detail about wilt of cotton.

Cont...

- 10 a Explain about VAM as biofertilizers.  
OR  
b Write in detail about biocontrol agents.

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 6 = 30)

- 11a Explain the microbial positive interactions with suitable examples.  
OR  
b Describe the microbial population and community dynamics in soil.
- 12 a Discuss in detail about air sampling devices and air sanitations.  
OR  
b Explain about waste water treatment.
- 13 a Explain the role of microbes in bioremediations.  
OR  
b Write about deteriorations of paper and textiles and prevention.
- 14 a Explain in detail about blight of paddy, citrus canker and their control Measures.  
OR  
b Explain in detail about nitrogen fixation in plants.
- 15 a Write in detail about integrated Pest management.  
OR  
b Explain about the cultivation of algal biofertilizers.

Z-Z-Z

END