

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2019
(Second Semester)

Branch - APPLIED MICROBIOLOGY

ENVIRONMENTAL & AGRICULTURAL MICROBIOLOGY

Time; Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10x 1 = 10)

- 1 MPN index for potable water should be _____ /100 ml.
(i) 0 (ii) 1
(iii) 2 (iv) 5
- 2 Dracunculiasis is a water borne infection caused by _____.
(i) Bacteria (ii) Algae
(iii) Virus (iv) Nematode
- 3 Lactobacillus casei and Pseudomonas taetrolens exhibit _____ interaction.
(i) Mutualism (ii) Commensalism
(iii) Amensalism (iv) Competition
- 4 Biodeterioration of leather is mainly done by _____.
(i) Bacillus sp (ii) Trichoderma sp
(iii) Pseudomonas sp (iv) Penicillium sp
- 5 Arbutoid mycorrhizae make _____.
(i) Ectomycorrhizae (ii) Endomycorrhizae
(iii) Ectendomycorrhizae (iv) Arbuscular Mycorrhizae
- 6 Azospirillum are associated with _____ plants.
(i) Monocot (ii) Dicot
(iii) Pteridophyte (iv) Gymnosperm
- 7 _____ causes damping off, seedling blight, collar rot, stem rot, charcoal rot, basal stem rot, and root rot on many plant species.
(i) Aspergillus sp (ii) Fusarium wilt
(iii) Sclerotium rolfsii (iv) Macrophomina phaseolina
- 8 _____ reduce the level of disease by selecting a season or a site where the amount of inoculum is low or where the environment is unfavorable for infection.
(i) Eradication (ii) Exclusion
(iii) Avoidance (iv) Protection
- 9 Wipfel krankheit or tree top disease is caused by _____.
(i) Bacillus thuringiensis (ii) Beauveria bassiana
(iii) NPV (iv) Trichoderma
- 10 Red rot of sugarcane is caused by _____.
(i) Glomerella tucumanensis (ii) Hemileia vastatrix
(iii) Meloidogyne incognita (iv) Sclerospora graminicola

SECTION - B (25 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 5 = 25)

11 a Discuss the role of safety cabinets in maintaining air sanitation.

OR

b Describe the three stage test procedure for the detection of faecal contamination in water.

12 a Brief out the important waterborne diseases.

OR

b Describe in detailed the purification of water on a large scale.

13 a What are the benefits of organic matter decomposition?

OR

b List out the benefits of the biofertilizer? Explain with two important biofertilizer.

14 a Write short notes on endo and ecto mychorizal.

OR

b How will you isolate phizobium and azoto bacter invitro condition? Add note on its application in the field.

15 a What are the different types of insecticides? Explain with example.

OR

b List out the bacterial and fungal plant diseases, add note on principles symptom's and control of Tikka, red rot of sugar cane, fusanicm wilt, and bacterial blight of rice?

SECTION -C (40 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 8 = 40)

16 a How will you assess, physical, chemical and biological quality of water?

OR

b Explain about global warming and how will you measure carbondioxide in polluted air.

17 a Explain different types of microbial interaction with example.

OR

b Explain various methods of liquid waste treatment.

18 a Explain symbiotic nitrogen fixation.

OR

b What is rumen microbes and add note on cultivation of microbes in animals?

19 a How will you control plant diseases?

OR

b List plant diseases caused by viruses, symptom's and control.

20 a Write about vermicomposting technology? How it will increase the soil quality?

OR

b How will you control insects by various biopesticide?