

**PARUL UNIVERSITY**  
**COLLEGE OF AGRICULTURE**

**B.Sc.(Hons.) Agriculture Summer 2017 - 18 Examination**

Semester: 2

Date: 17/05/2018

Subject Code: 20110152

Time: 10:30 am to 01:00 pm

Subject Name: Agricultural Microbiology

Total Marks: 60

**Instructions**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Do as Directed.****A. Fill in the blanks. (Each of 1.00 marks)****(10)**

1. Azolla an aquatic fern is regarded as “\_\_\_\_\_”
2. Azolla has been extensively used both as biofertilizer and \_\_\_\_\_ for rice cultivation.
3. Azolla fixes \_\_\_\_\_ kg N/ha in rice crop.
4. Root nodules of rhizobium found in \_\_\_\_\_ crop.
5. Bio-NPK Liquid consortia is recommended for \_\_\_\_\_ crop.
6. Potash culture is recommended for \_\_\_\_\_ crop.
7. Beauveria bassiana is one type of \_\_\_\_\_.
8. Silage is called \_\_\_\_\_ of fodder.
9. All plants and animals having \_\_\_\_\_ type of cell .
10. Azotobacter is recommended for \_\_\_\_\_ crop.

**B. Multiple choice type questions. (Each of 1.00 mark)****(10)**

1. In silage making to decrease its acidic quality (pH) to \_\_\_\_\_, which stops the growth of harmful germs.
 

a) 8.0-9.0	c) 3.0-4.0
b) 2.0-4.0	d) 1.0-6.5
2. Identify biological nematicide
 

a) Acetobacter	c) Paecilomyces lilacinus
b) Salmonella typhi.	d) None of above
3. Identify biological insecticide
 

a) Beauveria bassiana	c) Tricoderma V.
b) Pseudomonas	d) None of above
4. In silage making which ingredient is make the microbial process faster
 

a) Microbial inoculants	c) Rhizobium
b) Water	d) Jaggery
5. Aerobic process means...
 

a) Absence of $\text{CO}_2$	c) Absent of Oxygen
b) Present of Oxygen	d) None of above
6. Anaerobic process means...
 

a) Absence of Air	c) Absence of Carbon dioxide
b) Present of Air	d) Absence of Oxygen
7. Bacteria having \_\_\_\_\_ cell structure.
 

a) Eukaryotic	c) Multi cellular
b) Prokaryotic	d) None of above
8. System improves soil fertility
 

a) Cereal+Cereal	c) Cereal+Horticulture crops
b) Millets+Fodder	d) Cereal+Pulses
9. Equipment used for transfer of one bacterial colony to another media
 

a) Hand glove	c) Wire-loop
b) Spreader	d) Hot-Air-Oven
10. Equipment use for maintain aseptic temperature for proper growth of microorganism.
 

a) Autoclave	c) Incubator
b) Laminar air Flow	d) Water bath

**Q.2 Do as Directed.**

**A. Define the following. (Any five)**

**(05)**

1. Microbiology
2. Rhizobium
3. Bio-Pesticide
4. Bio-Fertilizers
5. Silage
6. Sterilization
7. Bio-waste degradation

**B. Answer the following. (Any five)**

**(05)**

1. Give the name of bio-fungicide.
2. What do you mean by Biological control?
3. Fungi grows on which specific media?
4. Bacteria grow on which specific media?
5. Standard temperature and pressure for autoclave.
6. Function of cytoplasm.
7. Function of Ribosome.

**Q.3 Write short notes. (Any five)**

**(15)**

1. Importance of microbiology in agriculture.
2. Mass multiplication of azolla.
3. Bio-Pesticide.
4. Advantages of silage making.
5. Draw labelled diagram of Eu-Karyotic cell and write function of it.
6. Difference between Prokaryotes vs Eukaryotes

**Q.4 Write down in details.(Any three)**

**(15)**

1. Draw labelled diagram of Pro-karyotic cell and write function of it.
2. Give steps of gram's staining procedure.
3. Characteristics of azolla.
4. Bio-Fertilizers