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**B. Sc. Agriculture (Semester – 2nd)**  
**AGRICULTURAL MICROBIOLOGY**  
**Subject Code: BAGRS1255**  
**Paper ID: [21130116]**

**Time: 03 Hours**

**Maximum Marks: 60**

**Instruction for candidates:**

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

**Section – A**

**(2 marks each)**

Q1. Attempt the following:

- a) Enlist the micro-organisms involved in Nitrification Process.
- b) Write the example of aerobic and anerobic Bacteria.
- c) Define denitrification in soil
- d) What you know about Immobilization.
- e) Define conjugation.
- f) Define transduction.
- g) What is Plasmid?
- h) Draw a well-defined diagram of Carbon Cycle
- i) Enlist various types of edible mushroom with their scientific name.
- j) Define Bio fertilizer and Bio pesticide.

**Section – B**

**(5 marks each)**

- Q2. Explain Biological Nitrogen fixation with the well-labeled diagram of Nitrogen Cycle
- Q3. Differentiate between prokaryotic and Eukaryotic Cell with example.
- Q4. Define Microbiology. Write the short note on importance of microbes in soil fertility and crop production.
- Q5. What is mycorrhiza? Explain various types of mycorrhiza.
- Q6. Explain the long and short method of composting of *Agaricus bisporus*.

**Section – C**

**(10 marks each)**

- Q7. Define the Bacterial Cell and structure with the well-defined diagram along with Bacterial growth.
- Q8. Explain the processes how variation or recombination occurs in Bacteria.
- Q9. Explain the compost and spawn preparation technique for *Pleurotus* spp.