

Sl. No. : 7398

Unique Paper Code: 2533012009

Name of the paper: Agricultural Microbiology

Name of the Course: Microbiology

Semester: VIII

Duration: 2 hours

Maximum Marks: 60

Instructions

Attempt **four** questions in all

All questions carry equal marks

- Q.1. a. What is organic farming? Discuss its various methods. 6
- b. Discuss mass production and field applications of *Bacillus thuringiensis* **OR**
Metarhizium anisopliae 6
- c. Write about any two physical properties of soil. 3
- Q.2. a. What role do microbes play in biogeochemical cycling of nitrogen? 5
- b. Discuss composting as a method for disposal of solid wastes. 6
- c. Give an example of each of the following
- i. PGPR
 - ii. Free living nitrogen fixer
 - iii. Fungal biocontrol agent
 - iv. Algal biofertilizer 1x4=4
- Q.3. a. Write a note on the various macronutrients and micro nutrients present in soil. 6
- b. Discuss the significance of agrowaste management as a source of animal feed. 6
- c. What are the advantages of biofertilizers over chemical fertilizers? 3
- Q.4. Discuss the isolation, characteristics, mass production and field applications of the following (**any two**):
- i. *Azospirillum*
 - ii. *Acetobacter diazotrophicus*
 - iii. *Rhizobium* 7.5x2=15
- Q.5. Write short notes on the following (**any three**):
- i. Biopesticide
 - ii. Bt Cotton
 - iii. Mycorrhizal association
 - iv. *Baculoviruses* 5x3=15