

Sl. No. 8076

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 are PGPR? Discuss giving suitable examples. 6
- b. Discuss mass production and field applications of *Trichoderma spp.* OR
Baculoviruses 6
- c. Write about any two chemical properties of soil. 3
- Q.2. a. What role do microbes play in biogeochemical cycling of phosphorus? 5
- b. Discuss significance of agrowaste management as a source of biofuel. 6
- c. Give an example of each of the following
- i. Micronutrient in soil
 - ii. Asymbiotic nitrogen fixer
 - iii. Viral biopesticide
 - iv. Actinomycete biofertilizer 1x4=4
- Q.3. a. Write a note on organic farming, its types and advantages. 6
- b. Discuss Mycorrhiza as a biofertilizer. 6
- c. What are the advantages of biopesticides over chemical pesticides? 3
- Q.4. Discuss the isolation, characteristics, mass production and field applications of the following (**any two**):
- i. *Azotobacter*
 - ii. *Anabaena*
 - iii. *Rhizobium* 7.5x2=15
- Q.5. Write short notes on the following (**any three**):
- i. Role of NPK in soil fertility
 - ii. *Agrobacterium* mediated plant transformations
 - iii. Composting
 - iv. *Metarhizium anisopliae* 5x3=15