

P. P. SAVANI UNIVERSITY

Third Semester of M.Sc. Examination

December-2021

SSMB 8030-Environment and Agricultural Microbiology

07.12.2021, Tuesday Time: 09:00 a.m. to 011:30 a.m. Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Make suitable assumptions and draw neat figures wherever required.
3. Use of scientific calculator is allowed.

Section-I

- Q.1 Very Short Questions (Attempt any five) [10]**
- 1.1 What is Amnesalism?
 - 1.2 What are the characteristics adaptations of Thermophiles?
 - 1.3 What is Nitrification? Give 2 examples of Organisms involved.
 - 1.4 Give microbiological importance of Phosphorous.
 - 1.5 Define Ecosystem. Name various aquatic ecosystems.
 - 1.6 What are the various types and causes of Pollution?
- Q.2 Write Short Notes (Attempt any two) [06]**
- 2.1 Mutualism with examples
 - 2.2 Waste Water Treatment
 - 2.3 Ecological Successions
- Q.3 Detail questions (Attempt any two) [14]**
- 3.1 Negative Interactions
 - 3.2 Air Pollution and its Control
 - 3.3 Marine water Pollution

Section-II

- Q.1 Very Short Questions (Attempt any five) [10]**
- 1.1 How Gibberlins are helpful to plants?
 - 1.2 Define : Nitrogen Fixation. What are the advantages of using N₂ Fixing bacteria.?
 - 1.3 Write Symptoms for Canker of Leaves.
 - 1.4 What do you mean by Microbial Inoculants.
 - 1.5 What is Powdery Mildew. Give examples of plants effected by this disease.
 - 1.6 Advantages of Genetically modified plants.
- Q.2 Write Short Notes (Attempt any two) [06]**
- 2.1 Cyanobacteria as Biofertilizers.
 - 2.2 Ethylene.
 - 2.3 Write Causative agent, symptoms and treatment for Citrus Canker
- Q.3 Detail questions (Attempt any two) [14]**
- 3.1 *Bacillus thuringensis* as Biopesticide.
 - 3.2 Classification of Siderophores and its effects on plants.
 - 3.3 *Agrobacterium tumefaciens* as Microbial insecticide.