

# P. P. SAVANI UNIVERSITY

Third Semester of M.Sc. Examination

December-2021

SSBT8030- Agricultural Biotechnology

07.12.2021, Tuesday

Time: 09:00 p.m. to 11:30 p.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.
- 4.

### **Section-I**

- Q.1 Very Short Questions (Attempt any five) [10]**
- 1.1 Write role of photolysis in photosynthesis
  - 1.2 Which region of light is to absorb by Chlorophyll-a & Chlorophyll-b?
  - 1.3 Enlist natural process which can fix nitrogen
  - 1.4 Define: heterocysts and its role
  - 1.5 Enlist four different development zone in root
  - 1.6 Define phytohormone
- Q.2 Write Short Notes (Attempt any two) [06]**
- 2.1 Short note on C4 pathway along with all biochemical reactions
  - 2.2 Give structure and function of nitrate reductase
  - 2.3 explain periclinal and anticlinal division in root with suitable diagram
- Q.3 Detail questions (Attempt any two) [14]**
- 3.1 short note on growth and development of leaf
  - 3.2 Explain in detail about nodule formation.
  - 3.3 Give an account on Auxin biosynthesis and metabolism

### **Section-II**

- Q.1 Very Short Questions (Attempt any five) [10]**
- 1.1 Give full form of RAPD & SSR marker
  - 1.2 Explain cytological marker
  - 1.3 Define: Marker Assisted selection (MAS)
  - 1.4 Define: Gene pyramiding
  - 1.5 Differentiate gene and DNA marker
  - 1.6 Define: Polymorphism
- Q.2 Write Short Notes (Attempt any two) [06]**
- 2.1 Short note on classification of markers
  - 2.2 Short note on iron uptake through siderophore
  - 2.3 Differentiate Test cross and backcross
- Q.3 Detail questions (Attempt any two) [14]**
- 3.1 Define: marker. Give its classification and explain morphological, cytological markers with suitable example
  - 3.2 Give account on BT crops
  - 3.3 Explain in details about "Rust disease"