

**2013**

**M.Sc.**

**3rd Semester Examination**

**MICRIBIOLOGY**

**PAPER—MCB-303**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

Answer any two questions from each group

**Group—A**

*[ Marks—20 ]*

1. (a) Define with example —  $1\frac{1}{2} \times 2$
- (i) Syntrophism;
- (ii) Symbiosome.
- (b) State the principle and technique used for measuring nitrogen fixation by GLC. 3
- (c) Mention the major events that occurred in the formation of root nodule and specify the role of nod gene. 3+1

*(Turn Over)*

2. (a) Briefly describe the methods of composting. 4  
 (b) How compost is enriched? What is Super Digested Compost? 2  
 (c) Write a brief note on ICP. 4
3. Write notes on :  $2\frac{1}{2} \times 4$   
 (a) Protoplast technology  
 (b) Rhizosphere and phyllosphere.  
 (c) N<sub>2</sub> Cycling.  
 (d) Mode of action of Bt toxin.

**Group—B**

[ Marks—20 ]

4. Write short notes on (any four) :  $2\frac{1}{2} \times 2$   
 (a) Rice tungro virus.  
 (b) Aflatoxin.  
 (c) Immunization of plants against pathogens.  
 (d) Parasitism and pathogenicity.  
 (e) Host range of pathogens.  
 (d) Significance of plant diseases.
5. What do you mean by 'local' and 'systemic acquired resistance against plant diseases? Write a comprehensive note on development genetically engineered disease resistant plants. 3+7
6. What are chemical defense systems of plants? Write down various chemical weapons of pathogens for disease development on host plants. 2+8