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6. (a) Explain *Agrobacterium*-mediated plant transformation with an example. (6)
- (b) What is biofertilizer? Cite an example. (3)
- (c) Write field application of the following (any three) :
- (i) *Trichoderma spp.*
- (ii) VAM
- (iii) *Azotobacter*
- (iv) *Anabaena* (1×3=3)

(200)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 1241 I

Unique Paper Code : 2533012009

Name of the Paper : Agricultural Microbiology

Name of the Course : B.Sc. (Hons.) Microbiology

Semester : V

Duration : 2 Hours Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any five questions.
3. All questions carry equal marks.

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1. (a) Discuss the role of biogeochemical cycles in soil fertility. (4)
- (b) Explain the mass production and field applications of *Rhizobium*. (4)
- (c) Write the advantages of Organic farming over conventional farming methods. (4)
2. Write short note on the following (any four) :
(3×4=12)
 - (i) *Frankia*
 - (ii) *Baculoviruses*
 - (iii) Bioenergy
 - (iv) *Acetobacter diazotrophicus*
 - (v) *Azospirillum*
3. (a) Explain the details of chemical characteristics of different types of soil. (6)
- (b) What is composting? List out applications of composting. (4)

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- (c) Expand the terms: Bt, AM. (2)
4. (a) What do you understand by PGPR? Write their applications. (4)
- (b) What are macronutrients? Mention their names and role in soil. (6)
- (c) What is biocontrol agent? Give an example. (2)
5. Briefly explain the following terms (any six) :
(2×6=12)
 - (i) Soil horizon
 - (ii) Soil texture
 - (iii) Humus
 - (iv) Weathering
 - (v) Mycorrhiza
 - (vi) Agrowaste
 - (vii) Biofuel

P.T.O.