



**WEST BENGAL STATE UNIVERSITY**

B.Sc. Honours 6th Semester Examination, 2021

**MCBADSE04T-MICROBIOLOGY (DSE3/4)**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.*

**GROUP-A**

**Answer any five from the following questions**

2×5 = 10

1. What is Bioaugmentation?
2. What is BT toxin?
3. Name two pesticide degrading bacteria.
4. What do you mean by 'Rhizosphere'?
5. Give examples of two plant pathogens and their host.
6. How symbiotic nitrogen fixing bacteria differ from non-symbiotic nitrogen fixing bacteria?
7. What is Farm Yard Manure (FYM)?

**GROUP-B**

**Answer any three from the following questions**

10×3 = 30

8. (a) What is greenhouse gas? Discuss the impact of greenhouse effect. 2+2  
(b) What is PGPR? 1  
(c) Discuss the beneficial effects of PGPR. 3  
(d) Write the differences between the transgenic animal and cloned animal. 2
9. (a) How microbial enzyme reduces the accumulation of Greenhouse Gas? 3  
(b) How does microorganism solubilize phosphorous in soil? 4  
(c) Discuss how biocontrol agents act against plant pathogens. 3
10. Write short notes on the following: (any four) 2½×4
  - (a) Properties of soil
  - (b) The role of microorganism in global climate change
  - (c) Golden Rice

- (d) Biodiesel as Biofuel
- (e) Vesicular-Arbuscular Mycorrhizas (VAM).
- 11.(a) By which means different soil types can be distinguished? 2
- (b) Define Photostimulation. 2
- (c) What is Siderophore? 1
- (d) Describe the roles of siderophore in sustainable development of agriculture. 3
- (e) How does microorganism fix atmospheric nitrogen? 2
- 12.(a) What is Biogas? 1
- (b) How does microorganism produce Biogas? 3
- (c) Write the advantages of liquid biofertilizer over carrier based biofertilizers. 3
- (d) What types of modification take place to develop a GM? 3

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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