

B.Sc. (CBCS Pattern) Semester - VI
**USMBT-16 - DSE-IV - Microbiology : Microbes in Sustainable Agriculture and
Development**

P. Pages : 2

Time : Three Hours



GUG/S/23/13336

Max. Marks : 50

1. Explain in details mineralization of cellulose and hemicelluloses. **10**

OR

a) Write properties of soil. **2½**

b) Write a note on soil as microbial habitat. **2½**

c) Discuss mineralization of silica. **2½**

d) Write a note on diversity of micro-organism in soil. **2½**

2. Discuss in details production and control of carbon dioxide. **10**

OR

a) Discuss control of methane production by micro-organism. **2½**

b) Write a note on nitrous oxide production. **2½**

c) Discuss how micro-organism used as biocontrol agent against insects. **2½**

d) Explain mechanism of biocontrol of soil borne plant pathogen. **2½**

3. Discuss in details production of Rhizobium Fertilizers. **10**

OR

a) Write a note on MHBs. **2½**

b) Discuss how algae is act as a biofertilizers. **2½**

c) Write a note on PGPRs. **2½**

d) Explain how Bacteria promote plant growth. **2½**

4. Discuss processing parameters and advantages of Biogas. **10**

OR

- a) Write down advantages of Biofuel. 2½
- b) Write a note on GM crops. 2½
- c) Write a note on Bt crops. 2½
- d) Write a note on transgenic animals. 2½

5. Solve any ten.

- a) Enlist any two micro-organism present in basic soil. 1
- b) What is mean by mineralization. 1
- c) Define Humas. 1
- d) Write down any two greenhouse gases. 1
- e) What is mean by biocontrol agent. 1
- f) Give any two example of micro-organism which ad as a biocontrol agent. 1
- g) What is mean by Phyto formulation. 1
- h) Give example of Novel combination of microbes for biofertilizer. 1
- i) Define Bioinsecticides. 1
- j) Define bio-manure. 1
- k) What is mean by silage. 1
- l) Define Biofertilizers. 1
