

B.Sc. (CBCS Pattern) Semester-III  
**USMBT06 - Microbiology Paper-II : Food, Soil, Microbiology and  
Microbial Ecology**

P. Pages : 2

Time : Three Hours



**GUG/W/24/11615**

Max. Marks : 50

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**1.** Explain staphylococcal food poisoning in detail. **10**

**OR**

- a) Explain any two physical methods of food preservation **2½**
- b) Explain the concept of HACCP. **2½**
- c) What are the sources of contamination of food. **2½**
- d) Write in short about different types of food spoilages. **2½**

**2.** Define compost and explain in detail process of formation of compost. **10**

**OR**

- a) Write a short note on composition of soil. **2½**
- b) Explain the elemental transformation in nitrogen cycle. **2½**
- c) Explain the nature and characteristics of humus. **2½**
- d) Explain Carbon cycle. **2½**

**3.** Explain the process of nodulation in leguminous plant in detail. **10**

**OR**

- a) Define commensalism, synergism, parasitism with suitable examples. **2½**
- b) Write a note on biofertilizers. **2½**
- c) Explain the concept of biopesticides. **2½**
- d) Explain the structure of nif gene. **2½**

**4.** Explain the construction and working mechanism of biogas plant. **10**

**OR**

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|--|----|
| a) Write a short note on Microbial Enhanced Oil Recovery (MEOR). | 2½ |
| b) Explain acid mine drainage.                                   | 2½ |
| c) Explain the bioleaching of uranium.                           | 2½ |
| d) Explain biodegradation of pesticides.                         | 2½ |

**5. Write any ten. (each carry one marks)**

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|---|---|
| a) What is ropy bread?  | 1 |
| b) Who discovered canning?  | 1 |
| c) Who discovered pasteurization?                                     | 1 |
| d) Define nitrification?  | 1 |
| e) Which method of composting is called as Bangalore method?          | 1 |
| f) Mention any two types of soil.                                     | 1 |
| g) Define symbiosis.  | 1 |
| h) Define syntrophism.  | 1 |
| i) Give any two examples of symbiotic nitrogen fixing bacterium.      | 1 |
| j) Name the bacterial species involved in the bioleaching of uranium. | 1 |
| k) Name any two substances which superbug can degrade?                | 1 |
| l) Mention microbes involved in biological desulphurization of coal.  | 1 |

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