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PG Even Semester (CBCS) Exam., May—2019

MICROBIOLOGY

(4th Semester)

Course No. : MIBCC–401

(Soil and Environmental Microbiology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. What is droplet nuclei? Describe the different methods of air quality assessment. 14

2. What is phyllosphere? Explain the role of phyllosphere microorganism in plant physiology. 14

UNIT—II

3. Explain the process of nodulation in legumes. How do rhizobia and host plant interact in the process? 14

4. Describe the process of nitrogen fixation, role of enzymes and 'nif'-genes in bacteria. 14

UNIT—III

5. What are Giopesticides? Explain different types of Giopesticides and their benefits. 14

6. Write short notes on any *two* of the following : 7×2=14

(a) Polyhydroxy butyrate (PHB)

(b) BIS norms for biofertilizers

(c) Rhizobial inoculants

UNIT—IV

7. Describe the role of microbes in marine water ecosystems, including estuaries and deep sea habitats. 14

8. How is the quality of water assesed? Explain the role of indicator organisms. 14

UNIT—V

9. Write a detailed note on N-cycle and role of microbes in nitrogen cycle. 14

10. Explain the process of decomposition of organic material by microbes. 14

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