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PG Even Semester (CBCS) Exam., May—2018

MICROBIOLOGY

(2nd Semester)

Course No. : MIBOC–203

(Basic and Applied 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 are the different molecular methods used in characterization of microorganisms? Describe with suitable diagrams. 14

2. Explain the concept of large scale evolution and 'the big tree'. 14

UNIT—II

3. What are diversity indices? How are these indices useful to estimate microbial diversity? Explain with the help of suitable example. 14

4. *(a)* What will be the bacterial count of a urine sample, in which you count 15 CFU in 10^{4} dilution, where 0·5 ml of suspension was plated? 7

(b) Calculate the Shannon index for a community having following characteristics : 7

Organism *A* : 10 individuals
Organism *B* : 15 individuals
Organism C : 20 individuals

UNIT—III

5. Explain the health hazard associated with HIV. What are the characteristics of causal organism of HIV? 14

6. Describe the symptoms and pathogenesis of Anthrax. 14

UNIT—IV

7. Describe the waste water treatment for dairy and distillery industry. 14

8. How do bacteria degrade xenobiotic compounds? Explain with the help of degradation of hydrocarbons. 14

UNIT—V

9. Explain the process of Beer brewing in detail. 14

10. Describe the structure and function of different parts of a fermenter. 14

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