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RNLKWC/B.Sc.-CBCS/VS/MCB/H/DSE2T/22

2022

Microbiology

[HONOURS]

(CBCS)

(B.Sc. Fifth Semester End Examination-2022)

PAPER-DSE2T

Full Marks: 40

Time: 02 Hrs

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

[Microbes in sustainable agriculture and development]

Group-A

Answer any five questions of the following:

5x2=10

1. What is humus? State its composition. 1+1
2. Name two phosphate symbolizing bacteria? 2
3. Write down the limitation of biofertilizer. 2
4. Name four bacterial insecticides. 2
5. What is nitrification? 2
6. What is mineralization? 2
7. What is meant by "biotech feed"? 2
8. Write down the function of leg hemoglobin in N₂ fixation. 2

(2)

Group-B

Answer any four questions of the following: 4x5 = 20

1. Write down the microbial decomposition of lignin. 5
2. Write down the importance of mycorrhiza as biofertilizer. 5
3. Discuss the mechanism of action of any one biocontrol agent. 5
4. Write down the different methods for the formation of transgenic animals. 5
5. a) What do you mean by soil horizon?
b) Write down the different vertical horizon found in soil. 1+4
6. a) What are methanogens? Give examples.
b) Write down the mechanism of methanogenesis. 1+1+3

Group -C

Answer any one question: 1x10 = 10

7. a) Describe the detailed mode of action of Bt toxin as biocontrol agent with labelled diagram.
b) Write down the advantages of golden rice over natural rice.
c) State the diversity of microorganisms present in soil. 5+2+3
8. a) Mention the role of Frankia in soil.
b) Write down the pros and cons of GM crops.
c) Write down the isolation process of PSM from soil.
d) Give example of one plant used for the production of petroleum. 2+(2+2)+3+1