

2022

MICROBIOLOGY

[Honours]

B.Sc. Fourth Semester End Examination - 2022

PAPER - C9T

Environmental Microbiology

Full Marks : 40

Time : 2 hours

*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.*

Group - A

Answer any five from the following : 5×2

1. Which microbes are responsible for lignin degradation? 2
2. Write short note on synergism. 2
3. What are aeroallergens? 2
4. Why COD value is higher than BOD value.

(Turn Over)

(2)

5. What is the role of microbes in conversion of insoluble form of phosphorous to soluble form. 2
6. What is the Principle of trickling filter? 2
7. What is bioaugmentation? 2
8. What are meant by persistent and recalcitrant? 2

Group - B

Answer any four from the following : 4×5=20

1. How are microbial biofilm formed? What is the role of EPS in bacterial biofilm? (3+2)
2. What do microbes do in ruminants? Which microbes are involved in sulphur cycle? 3+2
3. Which factors are dependent for the hemicellulose degradation? What is parasitism and predation? 3+2
4. How do biosurfactants catalyze to uptake the hydrocarbon by bacteria? What is bioremediation? 3+2
5. Write down the basic mechanism to remove the toxic metal by bacteria from environment. 5
6. What is the composition of humus? (2.5+2.5)
How humus is used for compost formation by microbes?

(3)

Group - C

Answer any one from the following : 1×10=10

1. What is leg hemoglobin? Write down the steps of nitrogen cycle with associated microbes? Write down the importance of the nitrogen cycle? 2+5+3
2. Why E.coli is considered as an indicator organism of pollution? How would you differentiate between *E.coli* and *Enterobacter aerogenes*. How MPN test is performed?

3+3+4