

U.G. 6th Semester Examination - 2021

MICROBIOLOGY

[HONOURS]

Course Code : MB-H-CC-L-13

(Environmental Microbiology)

Full Marks : 40

Time : 2½ 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.

1. Answer the following questions : 1×10=10
- i) What is a bioindicator organism?
 - ii) Give one example of lignin degrading enzyme?
 - iii) What is ammonification?
 - iv) What do you mean by e-wastes?
 - v) What is a sanitary land fill?
 - vi) What do you mean by Biodegradation?
 - vii) What is a Xenobiotic?
 - viii) What is super bug?
 - ix) Give example of a radionuclide which can be bio-reduced?

[Turn Over]

- x) What is a trickling filter?
2. Answer any **five** of the following: 2×5=10
- i) Differentiate BOD and COD.
 - ii) What do you mean by tertiary treatment in water treatment process?
 - iii) What is phytoremediation?
 - iv) What do you mean by disinfection efficiency?
 - v) At what condition iron reduction takes place by bacteria? Cite an example of Fe reducing bacteria.
 - vi) What is ozonosphere?
 - vii) Differentiate thermophile and thermotolerant.
3. Answer any **four** of the following: 5×4=20
- i) Discuss the ecological types of microbes contribute in N-cycle. What is nitrification? 4+1
 - ii) Write briefly about the acidophile mode of adaptation of microbes. 5
 - iii) Briefly write about the microbial degradation of cellulose and chitin. 2½+2½
 - iv) Write briefly about the composting process. What is vermicomposting? 4+1

v) Write briefly about the oxidation pond and activated sludge process in secondary treatment of waste water. $2\frac{1}{2}+2\frac{1}{2}$

vi) Briefly write about the standard qualitative procedure for determination of potability of water. 5
