U.G. 3rd Semester Examination - 2020

ENVIRONMENTAL SCIENCE

[HONOURS]

Course Code : ENVS-H-CC-P-05

(Ecology and Ecosystems)

[PRACTICAL]

Full Marks : 20 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.

Answer any **two** from the following: 10×2=20

1. State the principle and procedure of plankton analysis by drop count method. Cite two examples of blue green algae which serve as indicator of eutrophication. 8+2=10

2. Describe the principle and methodology of quadrat analysis of plant species of boreal forest ecosystem. Calculate the Shannon Diversity Index from the information provided in the following table and comment on your findings. 4+6=10

Table: Number of plant species under different species in different quadrats studied

Tree Species	Quadrate 1	Quadrate 2	Quadrate 3	Quadrate 4
Species 1	71	59	48	24
Species 2	18	21	14	16
Species 3	13	11	17	13
Species 4	12	20	19	9
Species 5	4	4	8	2
Species 6	5	2	6	6
Species 7	3	1	2	7

3. Describe the principle and methodology for determining the primary productivity of a pond ecosystem. Why does the dissolved oxygen concentration in a water body remain lower at the night time? 8+2=10

4. Describe the principle and methodology for estimating free CO_2 content in a water sample. How can you reduce the high free CO_2 concentration of a water body? 8+2=10

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