U.G. 3rd Semester Examination - 2020

ENVIRONMENTAL SCIENCE

[HONOURS]

Course Code : ENVS-H-CC-P-06

(Biodiversity and Conservation)

[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. What do you mean by quadrat sampling? Explain the procedure of quadrat sampling with a note on its importance in assessing biodiversity of a habitat. 2+8=10

2. Write in brief the procedure to study insect biodiversity of a region. Differentiate among alpha, beta and gamma diversity. 6+4=10

3. State the significance of Shannon index in assessing biodiversity. Find out biodiversity status of following ecosystems and make a conclusion on the maximum biodiversity index:

Species Name	Number of individual		
	Ecosystem A	Ecosystem B	Ecosystem C
Cirrhinus mrigala	200	50	900
Cyprinus carpio	250	350	1100
Puntius sophore	115	600	950
Mystus tengara	450	150	1000
Notopterus notopterus	185	100	950

4+6=10

4. State the significance of Simpson index in assessing biodiversity. Calculate the Simpson index for each of the following ecosystem and find out the ecosystem with the maximum biodiversity.

   Your backyard contains 12 fleas, 34 aphids, 84 ants, 93 beetles, and 1 butterfly.

   An Indian National Park contains 15 tigers, 94 monkeys, 1000 deer, 50 elephants, and 5 hyenas.

   Mindo (a city in Ecuador) has 832 toucans, 392 red headed barbets, 3 golden headed quetzals, 500 tanagers, 899 parrots, and 50 white capped dippers. 4+6=10

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