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Mid-Term (sample)

Programme	: B. Tech. (ECE)	Semester	:	
Course	: Environmental Science	Code	:	CHY 1002
Faculty	: Dr. Harihara Padhy	Slot/Class No.	:	
Time	: 1½ hours	Max. Marks	:	50

Answer all the Questions

Q. No.	Question Description	Marks
1	Analyse the ecosystem services which you rely on. What should be your contribution and obligations for the sustainable development? Why are many ecologists uncertain about the idea of sustainable development?	10
2	Mercury (Hg), is found in low concentration (<0.01 ppm) in sea water. Furthermore, in marine ecosystem, algae absorb less concentration of mercury in the form of Methyl mercury. But more than 1ppm of mercury concentration is found in Shark fish. Explain how higher concentrations of mercury are found in Shark Fish.	5
3	“Nutrient cycles connect past, present and future forms of life. Some of the carbon atom in your skin may once have been a part of an oak leaf or a layer of limestone rock. Your grandmother, rocks star Bono, or a hunter-gatherer who lived 25,000 years ago may have inhaled some of the nitrogen molecules you just inhaled.” Justify this statement by considering one nutrient as an example, which cycles within ecosystems and biospheres.	10
4	We, as human beings, are also part of ecosystems. We have, however, overcome the usual barriers and limiting factors faced by other species. We have interfered with the working of most ecosystems and are plundering the resources of ecosystems without any care. What would be the consequences of continuing this trend?	10
5	Many ecologists would like to move away from protecting individual endangered species to concentrate on protecting whole communities or ecosystems. Others fear that the public will respond to and support only glamorous “flagship” species such as gorillas, tigers, or otters. If you were designing conservation strategy, where and how would you put your emphasis?	10
6	Consider the following two ecosystems. Ecosystem I: 7 Rabbits, 3 frogs and 5 tigers. Ecosystem II: 3 Rabbits, 4 frogs, 5 tigers and 5 elephants Answer the following:	5
	(i) Calculate the Simpson’s diversity index for each ecosystem using the formula. (ii) According to you, which one is more diversified? Justify your answer with the results obtained from the formula.	

