LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **PLANT BIOLOGY AND PLANT BIOTECHNOLOGY**

SIXTH SEMESTER – **APRIL 2024**

UPB 6503 – ECOLOGY AND ENVIRONMENTAL BIOTECHNOLOGY

Date: 12-04-2024 Dept. No. Max. : 100 Marks

Time:01:00 PM- 04:00 PM

	SECTION A - K1 (CO1)	
	Answer ALL the Questions	**(10 x 1 = 10)**
1.	**Fill in the blanks**	
a)	A necessary link between autotrophs and carnivores is filled by …….	
b)	Diversity between communities is called ……...	
c)	…… gas causes respiratory and heart problems.	
d)	…….. is the process of addition of microbes to a clean up site	
e)	…….. are used to remove organic matter from wastewater.	
2.	**State whether the following statements are TRUE or FALSE**	
a)	Biodiversity is usually greater in higher altitudes.	
b)	Western Ghats is the important hotspot of biodiversity in India.	
c)	Lead is released in the atmosphere from automobile exhausts.	
d)	Chemical reactors are commonly used in bioremediation process.	
e)	Continuous stirred-tank reactor is an example of anaerobic digestion.	
	SECTION A - K2 (CO1)	
	Answer ALL the Questions	**(10 x 1 = 10)**
3.	**Choose the correct answer**	
a)	Which of the following is the greatest carbon sink on earth? (a) Forests (b) Soils (c) Ocean (d) Animals	
b)	"Kaziranga" national park of Assam is famous for (a) Rhinoceros (b) Tiger (c) Lion (d) None of the above	
c)	Which one of the following is not a biodegradable polluter (a) Fecal matter (b) Pesticides (c) Domestic waste (d) Dead animals	
d)	Which of the following is an example of a biological organism used in mycoremediation? (a) Algae (b) Bacteria (c) Fungi (d) Plants	
e)	Phytoextraction is the most effective process to remove (a) Heavy metals (b) Nitrogen (c) Phthalates (d) All of the above	
4.	**Answer the following, each in about 50 words**	
a)	What is niche?	
b)	Define the red data book.	
c)	What is silaging?	
d)	Define phytoremediation.	
e)	How do microbes remove radionuclides?	
	SECTION B - K3 (CO2)	
	Answer any TWO of the following in 500 words **Draw diagrams / flowcharts wherever necessary**	**(2 x 10 = 20)**
5.	Compare the strategies of *in situ* and *ex situ* conservation.	
6.	Explain the effects of heavy metal pollution.	
7.	Prepare and present the mechanisms of bioremediations.	
8.	Interpret the pathways of the degradation of phenol.	

	SECTION C – K4 (CO3)	
	Answer any TWO of the following in 500 words	**(2 x 10 = 20)**
	Draw diagrams / flowcharts wherever necessary	
9.	Analyze the concepts of ecosystem.	
10.	Classify the centers of origin of cultivated species.	
11.	Explain about the nonconventional energy resources and their importance.	
12.	Correlate *in situ* and *ex situ* bioremediation.	
	SECTION D – K5 (CO4)	
	Answer any ONE of the following in 1000 words	**(1 x 20 = 20)**
	Draw diagrams / flowcharts wherever necessary	
13.	Summarize the various aspects of global diversity.	
14.	Explain the types, causes and impacts of water pollution on biota.	
	SECTION E – K6 (CO5)	
	Answer any ONE of the following in 1000 words	**(1 x 20 = 20)**
	Draw diagrams / flowcharts wherever necessary	
15.	Discuss the various types of reactors used in bioremediation.	
16.	Elaborate upon the methods of biological treatment of sewage	

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