Reg.No. _____

Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – Nov/Dec – 2016

Code : 14CE2038 **Semester : V11**
Sub. Name : Industrial Waste Treatment and Disposal **Duration : 3hrs**
Max. marks : 100

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Write a short note on any two types of composting along with their benefits.	CO1	10
	b.	What was the major component that caused London smog and how is smog formation taking place.	CO1	10
		(OR)		
2.	a.	What are Bioassays and write the role of environmental bioassays?	CO1	5
	b.	Explain by product recovery in industries with one suitable example.	CO1	5
	c.	Summarize about environmental indicator with the help of any two example.	CO1	5
	d.	Explain about zero liquid discharge industrial systems. State their importance.	CO1	5
3.	a.	Explain briefly the characteristics and the treatment of sugar cane mill effluent with the aid of a flowchart.	CO3	10
	b.	Explain in brief the effect of diary waste in receiving streams. Also propose a treatment for diary wastewater.	CO3	10
		(OR)		
4.	a.	Discuss the current treatment technologies for wastewater from paper and pulp industries	CO3	10
	b.	Discuss broadly on biological treatment of leather tanning industry.	CO3	10
5.	a.	Explain the necessity of equalization and proportioning for industrial waste water	CO2	10
	b.	What are the disadvantages of disposal of industrial wastewater into the streams?	CO3	10
		(OR)		
6.	a.	Briefly explain any one method for removal of suspended impurities from wastewater.	CO2	10
	b.	Explain the treatment of wastewater from fertilizer industry in detail.	CO2	10
7.	a.	State the merits and demerits of Landfill. Also explain the recovery of methane from the landfill.	CO3	10
	b.	Discuss in detail about the physical unit processes commonly used in wastewater treatment.	CO1	10
		(OR)		
8.	a.	Discuss in detail the different methods available for removal of dissolved impurities.	CO2	8
	b.	Write down the comparison between rapid and slow sand filter.	CO1	8
	c.	Write any two coagulants that are commonly used in wastewater treatment plant.	CO2	2
	d.	Name any two chemical unit processes in wastewater treatment plant.	CO1	2
		Compulsory:		

9.	a.	Explain the principle and detailed process of coagulation. List out the different coagulants that are being used in treatment plants.	CO1	8
	b.	Write a short note on stabilization pond.	CO1	4
	c.	Discuss how the dissolved heavy metals are removed from the wastewater.	CO2	8

ALL THE BEST