		Reg. No. :			П	60300
	Que	estion Par				
(81)	B.E./B.Tech. DEG					
	CE 6605	Sixtl Civil l — ENVIRONM (Regul	n Semester Engineering IENTAL EN( ations 2013)	GINEERI	NG-II	
Time	: Three Hours					
		Answer	ALL questions			
. (8)			ART – A			
1. W	Vrite the various sou	rces of waste wa	ter generation	eribe equ		
2. D	Differentiate sewage,	sullage and garl	oage.			
(8)	What is sewerage? Write the various typ					
	What is an Oxidation What is Sludge?	Pond.	ons and design			
	What is Sludge Thick	ening?	i fig.		the process explain th	
8. W	Vhat is Sludge Condi	itioning?	e congleto as	Companyon is		
9. W	That is Coagulation	Process ?				

10. What is Biochemical Oxygen Demand?

50300 (5×16=80 Marks) PART – B 11. a) Write in detail the various adverse effects of Waste Water, the estimation of sanitary sewage flow and storm runoff with the different factors affecting the characteristics and composition of sewage. (OR) b) Write the effluent standards as prescribed by CPCB in India. What are the various legal requirements to be met before discharging any effluent in public (16)sewers or canals or rivers? 12. a) With the help of neat sketch design a sanitary and storm water sewer to an Indian town with a population of 5 lakhs. (16)(8) b) a) Sketch and describe in detail the working a pressure filter. b) Explain centrifugal pumps and reciprocal pumps. (8)13. a) a) Sketch and describe construction and working of a septic tank. (8)b) Explain the process of purification of sewage by trickling filter. (8) (OR) b) a) With the help of neat sketch explain the process of Primary Treatment of (8) Sewage. b) What is Grey Water harvesting and how it being carried out? (8) 14. a) Write the principles, functions and design and drawing of units with reference (16)to Activated Sludge Process. (OR) b) Write the process of Reclamation and Reuse of Sewage. With the help of neat sketch explain the sewage recycle plant for a residential complex. (16)15. a) Explain the characteristics of sludge and how biogas can be recovered. (16)(OR) b) Explain the various advances in the treatment of sludge and mode of disposal. (16)