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(83 & A-28)

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SARDAR PATEL UNIVERSITY

 $\underline{M.Sc.Semester\text{-}IV}\ \textbf{Examination}\ (CBCS)$

April -2016, Wednesday, Date: 13.04.2016

Time: 02.30 p.m. to 5.30 p.m., Paper: PS04ECHE05

Subject: Environmental Chemistry

Total Marks: 70

		bers of the marks carned by each question is indicated at the end of the question uitable data if considered necessary and indicate the same clearly.				
Q.1	i)	Tick ($\sqrt{\ }$) mark the right answer Which of the following pollutant responsible for loss of metallic luster?				
		$\mathbf{a)} SO_2 \qquad \qquad \mathbf{b)} CO$				
	ii)	C) CO_2 d) NO_X O gets converted into NO_2 and causes				
	11)					
		a) SMOKE b) SMOG c) Health problem d) Both b & c				
	iii)	c) Health problem d) Both b & c ranspiration is a process which is a key component of				
		a) Nitrogen Cycle b) Water Cycle				
		Sulfur cycle d) Phosphate cycle				
	iv) A range of wave lengths (in nm) that represents the atmospheric					
		indow is				
		a) 1000-2000 b) 2000-5000 c) 8000-13000 d) 15000-20000				
	v)	c) 8000-13000 d) 15000-20000 Thich of the following mainly responsible for ground water				
	٧)	pollution?				
		a) Pathogens b) Chemical extracts				
		Medical waste d) All of them				
	vi)	ON value of water states about				
		a) Hardness b) Odor				
	c) Turbidity d) Color vii) Which of the solid waste known as landfill concrete?					
		a) Type CD1 b) Type CD10 c) Type CD8				
	viii) Which among the following is/are called non-soil component(s).					
		a) Clay b) Silt				
		Both a) and b) d) Gravel				
0.2		ttempt any Seven	41			
•	i) Define: Aerosols and Aitken particles.					
	ii)	Define: Hydrosphere, Biosphere. Discuss acid rain and its cause.				
	iii)					
	 iv) Discuss the determination of SO₂. v) Give an account of Sewage water treatment. vi) What are the Effects of pesticide in water? 					
	" " " " " " " " " " " " " " " " " " "					

	vii)	200ml sample of water collect for TDS if 20ml aliquot from the given solution diluted up to 100ml. Weight of empty crucible is 17.23gm, weight of crucible with residue is 17.98gm. Calculate the amount of TDS in mg/ml.					
	viii) ix)	Discuss the radioactiv	e and medical waste.	?			
Q .3	a) b)	Write a note on struct Discuss the 'Sea Wate	ure of atmosphere.		[06] [06]		
	• •	[OR]					
	b) Discuss the importance of environmental chemistry. If 2 O ₃ sample react with KI solution and librated I ₂ titrat 42.18 mL. 0.0978 M Na ₂ S ₂ O ₃ . Calculate the ppb of O ₃ .						
Q.4	a)	Discuss the source of	air pollution.		[06]		
	b) Discuss the sampling train for air pollution analysis.						
	[OR]						
	b)						
Q.5	was absorb and converting to SO ₄ ⁻² by appropriate treatments. This can precipitates with BaCl ₂ having concentration 0.04 25.2 mL BaSO ₄ precipitates removed by filtration and remain BaCl ₂ consume 36.0mL, 0.02017 M EDTA for titration to reather end point. Calculate ppm of SO ₂ in given sample.(Ba=137.33, S=32, Cl=35.5) a) Discuss the various types of water pollutants. b) Discuss BOD and its importance. If two blue color water same each known to contain only one absorption species had follow absorption value in 1 cm cell. Wavelength Abs. Sample 1 Abs. Sample 2				[06] [06]		
		730 nm.	Abs. Sample 1 0.622	Abs. Sample 2			
		820 nm.	0.417	0.391			
	Do the water samples contain the same substance? Explain how you know?						
	[OR] b) Give the note on water quality and discuss alkalinity acidity.						
	2,	Give the note on water quality and discuss alkalinity, acidity, [0 TDS, TH, DO and COD.					
Q.6	a) Give the introductory note on soil pollution. Discuss the wa and pollutant in soil.						
	 Explain solid waste management. Discuss classification of waste and its disposal modes. 						
	[OR]						
 b) Discuss waste treatment technology and describe (i) in-ves composting and (ii) MBT 							

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