SEAT	No
[65]	

No. of Printed Pages:02

SARDAR PATEL UNIVERSITY

M.Sc. Semester-IV: Analytical Chemistry Examination (CBCS)
April -2018, Thursday, Date: 19.04.2018

	T	'ime: 02.00 p.m. to 5.00 p.m., P	ap	er: PS04E0	CHE05	•	
		Subject: Environmental	1 C1	nemistry	Total M	larks: 70	
N.B.: i) ii) A	The nu Assume	mbers of the marks carried by each questic suitable data if considered necessary and	n is indi	indicated at the cate the same	he end of th clearly.	e question	
Q.1		Highlight the correct option					[08]
٧. ـ	i }	Environmental composition is divi	ded	in	pa	art.	
	7		o)	1			
			1)	4			•
	ii)	Which of the following is a related	to:	Lithosphere	:2		
	,		o)	CO_2			
				Nitrogen c		_	
	iii)	Give the name of air pollutant ma	inly	responsibl	e for loss	of	
		metallic luster					
		,	b)	CO			
		-,	d)				
	iv)	TON value state about the		of water.			
			b)	odour			
			d)	color	tom?		
	v)	Which of the following is a quality		erameter of	water?		
			b)	SOMG			
	.,		d)	BOD	ovimum	amitted	
	vi)	Transportation and solid wast	e (nsposat m	axilliulli	emmaca	
		gas.	L١	CO_2	•		
		• •	b) d)	SO_2			
	::1	c) both a & b An ideal temperature for pyrolysis	,	-	is		
	vii)		b)		1011111		
			d)	910 °C			
		•	•				
	VIII)	Which of the following is true for		asier Aimmollinte	ont.	. •	
		•	b)	Air polluta	allt		
		c) Solid waste	d)	Sludge			
0.0		Attement only Carren					[14]
Q.2	:1	Attempt only Seven Explain the scope of environment	-01 0	hemietra			1- 1
	i) ii)	Define: Biosphere and Atmospher		arciniou y.			
	iii)	Discuss turbidity and hardness of		ater	•		
	iv)	Give brief note on 'EL Nino' pheno					
	v)	Discuss the PAN and PAH.					
	vi)	Explain 'Ozone Depletion' and its	car	ises.			
	vii)	If drinking water contains 1.5	מממ	n of fluorid	le (F). Ho	ow many	
	* }	liters of water can be fluoridated	wit	h 1 Kg NaFí	? (Àt. Wt.	Na = 23.	
		F = 19).		5 -	•	,	
	viii)	Discuss the Bio-drying process.					
	ix)	Give the brief detail of soil polluti	on.				
	7	1					

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			•
		2	
	Q.3	a) What do you mean by 'Hydrosphere'? Name its varied components. Discuss microbial mediated redox reactions in water.	[06]
		b) Give an account of inorganic and organic particulate matters.	[06]
		OR	
		b) Illustrate the terms 'Pathway of Pollutants'. Write a note on source and sink of NO _x .	
	Q.4	a) Which method is used for the quantitative determination of atmospheric trace gases? Discuss it in detail with suitable diagram.	[06]
		b) Explain the analysis of NO – NO _x and CO – CO _x . Discuss its effects. OR	[06]
		b) Discuss source of atmospheric pollutants SO ₂ and its effect on environment. If SO ₂ in 25 liters of air was collected by drawing the sample through 200 mL. 0.02017 M I ₂ at pH 1 remaining in solution was back titrated with 42.0 mL. 0.1041 M Na ₂ S ₂ O ₃ . Calculate the concentration of SO ₂ in unit mg of SO ₂ per liter of air. (At.Wt. S=32)	
	Q.5	a) Give the detailed account on trace components of water. Discuss its analysis and significant effect.	[06]
		b) Illustrate the source of water pollution. Discuss the significance of BOD, COD and DO.	[06]
		b) Explain the environmental toxicology. Discuss the effect of	
	Q.6	 pesticide in water and its biochemical effect. a) Illustrate the solid waste management programme and strategies. b) Why salt analysis of soil is required? How it is done? A sample of soil weighing 1.450gm was dissolved with buffer 10 pH, a few drops of EBT indicator was added and this solution required 31.62ml of 1.538 x 10-2 M EDTA solution to reach the end point. Calculate percentage of Mg in the given soil sample. (Mg = 24) 	[06] [06]
		or	
		b) How to measure moisture in soil? Explain various method of analysis.	
		X	
			•
		•	