## **C.U.SHAH UNIVERSITY**Summer Examination-2017

**Subject Name: Chemistry-VIII** 

Subject Code: 4SC04CHC2 Branch: B.Sc. (Chemistry)

Semester: 4 Date: 18/04/2017 Time: 10:30 To 01:30 Marks: 70

## **Instructions:**

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1		Attempt the following questions:		(14)
	a)	Give the smallest radioactive particle.	~ -	
		i) ${}_{1}^{1}H$	ii) $_{1}^{3}H$	
		•	v) None of this	
	<b>b</b> )	Give the shape of $XeF_6$ .		(1)
	<b>c</b> )	Define: 18 e <sup>-</sup> rule		(1)
	d)	Give the structure of $H_2O_2$ .		(1)
	e)	Give any one preparation of Organo beryllium.		(1)
	f)	Define: Ambident ligand		
	<b>g</b> )	Give any one chemical properties of deuterium.		
	h)	Give any one preparation of $XeF_2$ .		<b>(1)</b>
	i)	Draw the structure of Trimethyl Aluminius	n.	(1)
	<b>j</b> )	Draw the structure of EDTA <sup>-3</sup> .		
	k)	Give names of various types of manufactu	ring process for hydrogen.	<b>(1)</b>
	1)	Define: Organometallic compound		<b>(1)</b>
	m)	Give IUPAC nomenclature of following co	ompounds.	(1)
		i) $[Co(en)_2Br_2]$		
		ii) [Cu(NH <sub>3</sub> ) <sub>4</sub> ]SO <sub>4</sub>		
	n)	Give the common electronic configuration	of noble gases.	(1)
Attemp	t any f	four questions from Q-2 to Q-8		
Q-2		Attempt all questions	_	(14)
	A.	Discuss the structure and hybridization in	square planar complex $[Co(NH_3)_6]^{+3}$ .	(5)
	В.	Explain Optical isomerism in detail.		<b>(5)</b>
	C.	Write a note on secondary valency.		<b>(4)</b>
Q-3		Attempt all questions		(14)
	<b>A.</b>	Write a note on Clathrate Compounds.		<b>(7)</b>
	В.	Discuss the structures of XeF <sub>4</sub> and XeF <sub>6</sub> .		<b>(7)</b>
Q-4		Attempt all questions		(14)
	<b>A.</b>	Discuss the synthesis and structure of Zeis	e salt $K[PtCl_3(C_2H_4)]$	<b>(7)</b>
	R.	Explain preparation and properties of Orga	no lithium compounds	(7)



Q-5		Attempt all questions	
	<b>A</b>	Explain position of hydrogen in the periodic table and give its resemblance with	<b>(7)</b>
	Α.	alkali metals and halogen.	
	В.	Discuss the uses of hydrogen.	<b>(7)</b>
Q-6		Attempt all questions	(14)
	A.	Discuss the application of Noble gases.	<b>(7)</b>
	В.	Explain VBT in detail.	<b>(7)</b>
Q-7		Attempt all questions	(14)
	A.	Discuss the structure of Ferrocene.	<b>(7)</b>
	В.	Discuss the preparation and properties of XeF <sub>4</sub> and XeF <sub>6</sub> .	
Q-8		Attempt all questions	(14)
	A.	Write a note on Nascent hydrogen.	(5)
	В.	Explain preparation and properties of hydrogen.	
	C.	• Calculate 18 e and E.A.N rule in the following complexes.	
		a) $[Mn(CO)_6]^+$ b) $[Ti(CO)_6]^{-2}$	
		c) $[Cu(CO)_4]^+$ d) $[Cr(CO)_6]^+$	

