Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Winter Examination-2015

Subject Name : Chemistry - VIII

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

Semester : IV **Date : 20/11/2015** **Time : 2:30 To 3:30** **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)**

(MCQ/Short Type of Questions=1 mark*14=14 marks)

a)	Write the chemical structure of ferrocene.	1
b)	Write the chemical formula of heavy water.	1
c)	Write the possible isotopes of hydrogen.	1
d)	Write the full form of VBT for co-ordination compounds.	1
e)	Write the full form of IUPAC-used abbreviation for nomenclature.	1
f)	Define the term:-Thermodynamic stability	1
g)	Define the term:- Kinetic stability	1
h)	Define the term:- Instability	1
i)	Define the term:- Stability constant	1
j)	Define the term:- Clathrates	1
k)	What is the shape of XeF_2.	1
l)	What is the hybridization of XeF_6.	1
m)	What is the stable electronic configuration of nobel gases.	1
n)	Which is the smallest radioactive particle of hydrogen ?	1

Attempt any four questions from Q-2 to Q-8

Q-2 **Attempt all questions** **(14)**

A	Write the brief explanation (introduction) of coordination compounds.	**7**
B	Write the classification of coordination compounds based on stability of complex ions or denticity.	**7**

Q-3 **Attempt all questions** **(14)**

A	Explain the ratio of *ortho* to *para* deuterium.	**5**
B	Explain the VBT-valance bond theory for the coordination compounds.	**5**
C	Write short note on isotopes of hydrogen.	**4**

Q-4		**Attempt all questions**	**(14)**
	A	Write short note on Nascent hydrogen.	**5**
	B	Explain position of hydrogen and resemblance with alkali metals.	**5**
	C	Explain in brief: production and properties of tritium.	**4**
Q-5		**Attempt all questions**	**(14)**
	A	Write notes on classification based on nature of M-C bond for organ metallic compounds.	**7**
	B	Write notes on preparation, uses and properties of organo lithium compounds.	**7**
Q-6		**Attempt all questions**	**(14)**
	A	Write notes on preparation of organo beryllium and organo aluminium compounds.	**7**
	B	Write notes on preparation of zaise salts and ferrocene.	**7**
Q-7		**Attempt all questions**	**(14)**
	A	Write the methods of preparation for XeF_2 and its properties.	**5**
	B	Explain in brief: hybridization in Xenon difluoride.	**5**
	C	Explain in brief: occurrence of Nobel gases.	**4**
Q-8		**Attempt all questions**	**(14)**
	A	Write the uses of Nobel gases.	**5**
	B	Explain properties and structure of XeF_6 molecule.	**5**
	C	Discuss the shape of XeF_4 molecule.	**4**