Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Inorganic Chemistry-I

Subject Code: 4SC03ICH1 **Branch: B.Sc. (Chemistry, Physics)**

Semester: 3 **Date: 26/03/2018** **Time: 2:30 To 5:30** **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)	Define Ionization Energy (IE).	01
b)	Define group and period for periodic table.	01
c)	In _____ group and _____ block alkaline metals are placed in the modern periodic table.	01
d)	Give any two general properties of halogen.	01
e)	Define the term electron gain enthalpy.	01
f)	What do you mean by complex?	01
g)	State the modern periodic law.	01
h)	Give the types of p and d orbitals.	01
i)	Define the term Lanthanide.	01
j)	Define the term Actinides.	01
k)	Define the solvent extraction.	01
l)	Define oxidation state.	01
m)	What is called stability of complex?	01
n)	Define the term electro-negativity.	01

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

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

a)	Explain various factors affecting the stability of complexes.	07
b)	Explain the general properties of lanthanide elements.	07

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

a)	Explain the colors and spectra of lanthanides elements.	07
b)	Explain lanthanide contraction and causes of lanthanides contraction.	07

Q-4		**Attempt all questions**	**(14)**
	a)	Explain the step wise formation of complex.	05
	b)	Discuss the position of Nobel gases in the periodic table.	05
	c)	Discuss the general characteristics of s-block elements.	04
Q-5		**Attempt all questions**	**(14)**
	a)	Give the name, sign and electronic configuration of actinides elements.	07
	b)	Explain the oxidation state, Atomic and ionic radii, actinide contraction.	07
Q-6		**Attempt all questions**	**(14)**
	a)	Give the name, sign and electronic configuration of lanthanides elements.	07
	b)	Discuss the ion-exchange method for lanthanides elements.	07
Q-7		**Attempt all questions**	**(14)**
	a)	Explain the preparation of diboranes.	05
	b)	Explain the structure and bonding for diboranes.	05
	c)	Discuss the position of hydrogen in the periodic table.	04
Q-8		**Attempt all questions**	**(14)**
	a)	Explain the uses of diboranes.	05
	b)	Explain the Job's method for determination of stability constant for complex.	05
	c)	Explain the general characteristics of p-block elements.	04