

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name: Inorganic Chemistry-I**Subject Code: 4SC03ICH1****Branch: B.Sc. (Chemistry)****Semester: 3 Date: 15/03/2019****Time: 02:30 To 05:30****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.
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Q-1 Attempt the following questions: (14)

- a) How many periods are in the periodic table? (1)
- b) What is Transition element? (1)
- c) Define *p*-block elements. (1)
- d) Give IUPAC name of elements have atomic number 102 and 103. (1)
- e) Which substance are called "Diboranes"? (1)
- f) Which boranes are quite stable and don't hydrolyze readily? (1)
- g) Define kinetic stability. (1)
- h) What is thermodynamic stability? (1)
- i) What is electronegativity? (1)
- j) Give definition of Actinides. (1)
- k) Which oxidation state shown by all the actinidesmetals? (1)
- l) What is general configuration of lanthanide? (1)
- m) How are actinides prepared? (1)
- n) Give the oxidation states of Lanthanum. (1)

Attempt any four questions from Q-2 to Q-8**Q-2 Attempt all questions (14)**Give brief note on properties of Diborane (B_2H_6). (14)**Q-3 Attempt all questions (14)**

- a) Describe labile and inert octahedral complexes according to CFT. Define inner orbital and outer orbital complexes. (7)
- b) Why chelates ate more stable? Chelate effect. (7)

Q-4 Attempt all questions (14)Discuss Electronic configuration and type of elements: *s*, *p* and *d* (14)**Q-5 Attempt all questions (14)**

- a) Explain experimental determination of stability constant by potentiometric method. (7)
- b) Discus experimental determination of stability constant by spectrophotometric (7)



