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**SUBJECT CODE NO:- B-2001**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. F.Y. (Sem-I) Examination Oct/Nov 2019**  
**Chemistry Paper-I**  
**Inorganic Chemistry**

[Time: 01:30 Hours]

[Max. Marks:50]

Please check whether you have got the right question paper.

- N.B
- 1) Attempt all questions.
  - 2) All question carry equal marks.
  - 3) Illustrate your answer with suitable labelled diagram.
- Q.1
- a) What are quantum numbers? Explain Principle quantum number and Spin quantum number. 10
  - b) What is electron affinity? Explain the trends in periodic table. 10
- OR
- c) What is diagonal relationship? Explain diagonal relationship of Lithium (Li) with Magnesium (Mg). 10
  - d) What are s-block elements? Explain role of alkaline earth metals in biological system. 10
- Q.2
- a) What are s-block elements? Give the electronic configuration of IA group elements. 10
  - b) Define ionic radii? Explain size of cation is smaller than that of its parent atom. 10
- OR
- Write short notes on any four of the following:- 20
- a) Hund's rule of maximum multiplicity
  - b) Electronic configuration of II A group or alkaline earth metals.
  - c) Diagonal relationship of B with Si
  - d) Interhalogen compounds
  - e) Trends of ionization potential in periodic table
  - f) Pauli's Exclusion Principle
- Q.3 Attempt the following:- 10
- 1) The possible sub-orbitals for d-orbital
    - a) 0    b) 5    c) 2    d) 4
  - 2) Shape of p-orbital is
    - a) Dumb bell    b) Double dumb bell    c) Spherical    d) None of these
  - 3) Which of the following is metal
    - a) C    b) N    c) O    d) K

- 4) Which metal is present in chlorophyll  
a) Ca    b) Mg    c) Fe    d) Na
- 5) Which pair of atomic number belongs to p-block.  
a) 3, 12    b) 11, 19    c) 9, 17    d) 3, 19
- 6) Which of the following is most electronegative?  
a) C    b) N    c) O    d) F
- 7) Atomic number of Al is  
a) 12    b) 13    c) 14    d) 15
- 8) Azimuthal quantum number is represented as  
a) l    b) m    c) n    d) s
- 9) In a group top to bottom electronegativity -----  
a) Increases    b) decreases    c) Remains constant    d) none of these
- 10) General electronic configuration of IIIA group elements is  
a)  $ns^2, np^1$     b)  $ns^2, np^2$   
c)  $ns^2, np^3$     d) None of these