

Roll No.

21201

B. Sc. (Pass Course) 2nd Sem.

Examination – May, 2019

CHEMISTRY - I (INORGANIC CHEMISTRY)

Paper : CII-201

Time : Three hours]

[Maximum Marks : 30

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any five questions in all, selecting one question from each Unit. Question No. 1 is compulsory. All questions carry equal marks.

1. Compulsory question : 1 x 6 = 6

- (a) Explain why p-nitro phenol has higher boiling point than o-nitro phenol ?
- (b) How p- and n-type semiconductors are prepared ?
- (c) Why KOH is a stronger base than Ba(OH)₂ ?
- (d) Xe is known to form some compounds but not He and Ar ? Explain.

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- (e) Draw the structure of diborane.
- (f) Sketch the structure of white, red and black phosphorus.

UNIT – I

- 2. (a) What are Vander Waal's forces ? How are they helpful in explaining the properties of noble gases ?
- (b) Explain briefly the band theory of metals. 3 x 2 = 6
- 3. (a) What kind of forces must be overcome to boil water ? Explain.
- (b) Give the role of semiconductor in photovoltaic cell. https://www.haryanapapers.com 3 x 2 = 6

UNIT – II

- 4. (a) Draw the structure of chlorophyll and explain its function in biosystem.
- (b) Discuss the factors which led to late discovery of noble gas. 3 x 2 = 6
- 5. (a) Discuss the diagonal relationship between Li and Mg.
- (b) XeF₆ is a distorted molecule. Why ? 3 x 2 = 6

(2)

UNIT – III

6. (a) (i) Oxygen atom in H_2O has two lone pair electrons whereas NH_3 has one unshared lone pair electron but still NH_3 is a stronger base. Explain.
- (ii) What happens when diborane burnt in oxygen?
- (b) What is the back bonding? Why does it occur in BX_3 and not in AlX_3 . 3 ×
7. (a) Discuss the applications and properties of fluorocarbons.
- (b) Why the melting point of SiO_2 is higher than that of CO_2 . Explain. 3 ×

UNIT – IV

8. (a) Which group-15 elements- (i) cannot form pentahalide (ii) show maximum catenation?
- (b) Discuss the structure of H_2O_2 . How does it behave as bleaching agent? 3 ×
9. (a) What are interhalogen compounds? Why are they more reactive than halogens?
- (b) Write down the name of oxides of phosphorus. 3 ×