

- (c) What are interhalogen compounds? Why these are more reactive than parent halogens? 2
9. (a) Describe bonding and structure of XeF_6 . 3
- (b) Why noble gases are also called 2
- (i) Zero valent gases
- (ii) Inert gases
- (c) What were the reasons for the Late discovery of noble gases? 3

Roll No.

91533

B. Sc. 2nd Semester (Chemistry) (Hons.)
(New Scheme)
Examination – May, 2016

INORGANIC CHEMISTRY

Paper : 201

Time : Three Hours]

[Maximum Marks : 40

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 five questions in all, selecting one question from each Section. Question No. 1 is compulsory. All questions carry equal marks.

1. (a) Define common ion effect. $1 \times 8 = 8$
- (b) Out of $CH_3CH_2CH_2CH_2Li$ & CH_3OLi , which is organometallic compound?
- (c) Beryllium shows a diagonal relationship with which element?

91533- (P-4)(Q-9)(16) (4)

91533-320(P-4)(Q-9)(16)

P. T. O.

- (d) Why do helium & neon do not form clathrate compounds? 3
- (e) What is inert pair effect? 3
- (f) What is the chemical formula of Laughing gas? 3
- (g) What are Zeolites? 3
- (h) Which reagent is used for the detection and estimation of Nickel? 3

SECTION - A

- 2. (a) Potassium hydroxide is a stronger base than barium hydroxide. Why? 2
- (b) Why alkali metals are strong reducing agents? 3
- (c) What are the functions of Mg^{2+} and Ca^{2+} in biosystem? 3
- 3. (a) Why Lithium forms monoxide, sodium forms peroxide & others form superoxide? 3
- (b) Explain the order of size among the group - I ions in aqueous solution. 2
- (c) How will you differentiate precipitation, co-precipitation and post-precipitation? 3

SECTION - B

- 4. (a) Give chemistry of chromyl chloride test. 2
- (b) What are interfering radicals? Why they are called so? 3

91533- (P-4)(Q-9)(16) (2)

- (c) Why H_2S gas is passed in presence of dil. HCl for group - II radicals & H_2S is passed in presence of NH_4OH for group - IV radicals? 3

- 5. (a) Identify acid and basic radicals in $NaHCO_3, SnCl_2, Cr_2(SO_4)_3, Pb(NO_3)_2$ 4
- (b) How flame test is conducted? Which basic radicals give this test? 2
- (c) How nitrate and nitrite ions are identified in presence of each other? 2

SECTION - C

- 6. (a) What do you understand by back-bonding? Why it occurs in trihalides of boron and not in trihalides of aluminium? 4
- (b) Explain the diagonal relationship between Boron and silicon. 4
- 7. (a) Draw structures of phosphorous acid, hypophosphorous acid & orthophosphoric acid. Give their basicity. 3
- (b) What is inert pair effect? Give reason. 3
- (c) Explain the structure of diborane. 3

SECTION - D

- 8. (a) What are silicates? Explain cyclic silicates. 3
- (b) What are fullerenes? Give their important uses. 3

91533- (P-4)(Q-9)(16) (3)

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