E-444 (H/E) **CHEMISTRY 2016**

Time : 3 Hours] Class : 12th [M. M. : 75

Instructions-

(i) **Attempt all the questions.**

(ii) **Question Nos. 1 to 4 are objective types. Carries total 20 marks.**

(iii) **Question Nos. 5 to 8, each question carries 2 marks. (Word limit 30 words)**

(iv) **Question Nos. 9 to 13, each question carries 4 marks. (Word Limit 75 words)**

(v) **Question Nos. 14 to 16, each question carries 5 marks (Word Limit 120 words)**

(vi) **Question Nos. 17 to 18, each question carries 6 marks (Word Limit 150 words)**

(vii) **Internal choice is given to question Nos. 5 to 18.**

Q. 1. Choose the correct option: $5 \times 1 = 5$

(a) Which is not found in R.N.A.

(i) Thymine (ii) Urecel

(iii) Adinine (iv) Guwanine

(b) Which Noble gas does not have Octer complete:

(i) Helium (ii) Neon

(iii) Argon (iv) Krypton

(c) Which Halogen sublimates:

(i) Chlorine (ii) Bromine

(iii) Iodine (iv) Fluorine

(d) For Increasing of electro-conductivity in a solid crystal, mixing of impurities is known as:

(i) Schottky defect (ii) Frenkel defect

(iii) Doping (iv) Electronic-Defect

(e) Formula of unit cell Density is:

(i) $\frac{ZM}{a^3N_o}$ (ii) $\frac{ZN_o}{a^3M}$

(iii) $\frac{N_o a^3}{MZ}$ (iv) $\frac{Z}{MN_o}$

Q. 2. Fill in the blanks: 5 × 1 = 5

(a) Co-ordination number of Sodium in NaCl is .....

(b) Substance which are attracted in Magnetic field are called ....

(c) The Potential value of standard hydrogen electrode is ....

(d) Alkaline solution of $HgCl_2$ and KI is called .....

(e) Main product of mustard oil reaction is ....

Q. 3. Write answer in one word of each: 5 × 1 = 5

(a) What is the name of reaction for preparation of methyl iso cynide.

(b) Conversion of precipitate into colloidal solution is known as.

(c) What is the name of Disaccharides Sugar present in milk.

(d) Which types of Isomerism are in $[Co(NH_3)_5Br]So_4$ and $[Co(NH_3)_5 So_4]Br$.

(e) What is the name of reactions which are initiated by the radiations.

Q. 4. Match the pairs correctly: 5 × 1 = 5

Column 'A'	Column 'B'
(a) Radon	(i) Ligand
(b) Hinsberg Reagent	(ii) Clotting of Blood
(c) Catalyst Promoter	(iii) $C_6H_5SO_2Cl$
(d) E.D.T.A	(iv) Molybdenum
(e) Vitamin K	(v) Inert gas

Q. 5. What do you understand by denaturation of Protein. 2

(OR) Give two difference between D.N.A. and R.N.A.

Q. 6. Give two difference between double salt and complex salt. 2

(OR) Name is IUPAC System:

(i) $K_2[PtCl_6]$

(ii) $[Co(NH_3)_6]Cl_3$

Q. 7. What is tyndall effect. 2

(OR) Give two differences between Lyophilic colloids and Lyophobic colloids.

Q. 8. What are interhalogen compounds. 2

(OR) Write down name, structural formula and Hybridization of two Xenon compounds.

Q. 9. Write short notes on: 4

(i) Threshold Energy

(ii) Energy of Activation

(OR) What do you understand by order of reaction? Give three examples of first order of reactions.

Q. 10. Write four alloys of Aluminium with its names, composition and uses. 4

(OR) Write names, formula and uses of following compounds:

(i) Hematite

(ii) Silver Glans

(iii) Luner-Caustic

(iv) Corrosive Sublimate

Q. 11. How will you make (obtain) from chloroform: 4

(i) Chloretone

(ii) Phenyl Isocynide

(iii) Acetylene

(iv) Salicaldehyde

(OR) What happens when: (Write equations)

(i) Acetone is heated withAlkaline solution of Iodine.

(ii) Chlorobenzene is heated with chloral in presence of conc-H_2SO_4.

(iii) Chlorobenzene is heated with Sodium in presence of ether.

(iv) Ethyl bromide is heated with Alcoholic-KOH.

Q. 12. Difference between primary, secondary and tertiary alcohol through Victor Meyer's method only Equations. 4

(OR) (i) How will you obtain from phenol:

(a) 2, 4, 6 Tribromo Phenol

(b) Picric-Acid

(ii) What is the reaction of Diethyl ether with HI-Acid.

Q. 13. Describe the preparation of acetic acid through quick-vinegar process in following points: 4

(i) Diagram

(ii) Method

(iii) Equation of preparation

(iv) Any one precaution.

(OR) What happens when:

(i) Acetal chloride is reduced with hydrogen in presence of Barium sulphate associated with paladium.

(ii) Benzaldehyde boils with 45% NaOH.

(iii) Ammonia reacts with Formaldehyde.

(iv) Acetic-Acid reacts with- PCl_5.

Q. 14. 10.07 gram Silver obtained during the circulations of electric of 5 ampere upto 30 minutes in silver nitrate Pot (cell). Find out electro-chemical equalent of silver. If chemical equivalent of hydrogen is 0.00001036 then what will be equivalent weight of silver. 5

(OR) (i) What do you understand by corrosion.

(ii) Write electro-chemical theory of corrosion (Rust).

(iii) Write prevention (two) of corrosion.

Q. 15. (a) Bleaching of flowers by chlorine is stable but bleaching of SO_2 is unstable. Why? (2.5 × 2 = 5)

(b) Water is liquid while hydrogen sulphide is a gas at normal temperature. Why?

(OR) Draw a Labelled diagram of Ostwald method for preparation of Nitric Acid and explain its preparation only by equation.

Q. 16. (i) Give two names of Artificial sweeters. (1 + 2 + 2 = 5)

(ii) Give definition of antibiotic and one example.

(iii) Give definition of antihistamine drug with name and uses.

(OR) (a) Write short notes on Sushrut.

(b) Give the names of active ingredients and their one uses of following medicinal plants.

(i) Amla

(ii) Haldi

(iii) Tulsi

Q. 17. What do you understand by elevation of boiling point and molal elevation constant, with the help of this constant how can you find the molecular mass of non volatile solute? 6

(OR) (a) Give two differences between Ideal and non-Ideal solutions.

(b) Find out osmotic pressure of Glucose solutions of 5% sol. at 25°C temp while molecular mass of Glucose 180 and R = 0.0821 Litre Atmosphere.

Q. 18. (a) Why Transition elements become paramagnetic? (3 + 3 = 6)

(b) Explain oxidization properties of potassium permagnate in acidic medium. (any four only)

(OR) (a) What are Lanthanide elemnts?

(b) What do you understand by Lanthanide contraction?

(c) Write chromyl chloride test with equation.