2017 (A) Roll No: _____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (NEW SCHEME) (SESSION 2015-2017) GROUP-I

TIME ALLOWED: 2.40 Hours **SUBJECTIVE** MAXIMUM MARKS: 68

NOTE: - Write same question number and its part number on answer book, as given in the question paper.

SECTION-I

2. Attempt any eight parts. **8 × 2 = 16**

(i) What is Stoichiometry? Give its two assumptions.
(ii) What are Molecular Ions? How are they generated?
(iii) Define gram Formula. Give two examples.
(iv) What is the basic principle of Crystallization?
(v) State Distribution Law.
(vi) What is R_f value? Give its formula.
(vii) What is the difference between Diffusion and Effusion?
(viii) Define Critical Temperature and Critical Pressure of Gases.
(ix) Calculate the value of gas constant "R" in S.I units.
(x) Define Solubility Product. Give one example.
(xi) How does a catalyst affect a Reversible Reaction?
(xii) What is the effect of increase of Pressure on the decomposition of $PC\ell_5$?

3. Attempt any eight parts. **8 × 2 = 16**

(i) Why HF is the weakest acid than other Hydrogen Halides?
(ii) Evaporation takes place at all temperatures. Justify.
(iii) Define Isomorphism and Polymorphism.
(iv) Why ionic crystals do not conduct electricity in the solid state?
(v) Differentiate between Zeeman effect and Stark effect.
(vi) Whichever gas is used in the discharge tube, the nature of the cathode rays remains the same. Why?
(vii) Give two postulates of Bohr's atomic model.
(viii) Why positive rays are also called canal rays?
(ix) Define Molarity and Molality.
(x) What is meant by Water of Crystallization? Give two examples.
(xi) Differentiate between electrolytic and Voltaic Cell.
(xii) A salt bridge maintains the electrical neutrality in the cell. Justify.

4. Attempt any six parts. **6 × 2 = 12**

(i) Why the Ionization Energy decreases down the group, although nuclear charge increases?
(ii) How nature of bond can be determined by Electronegativities Values?
(iii) How can you describe that π bonds are more diffused than σ – bonds?
(iv) The dipole moments of CO_2 and CS_2 are zero but that of SO_2 is $1.61D$, why?
(v) What is State and State function? Explain with example.
(vi) Prove that $\Delta E = q_v$
(vii) How surface area affects the rate of reaction?
(viii) Differentiate between Homogeneous and Heterogeneous Catalysis.
(ix) Differentiate between Instantaneous and Average Rate of Reaction.

SECTION-II

NOTE: - Attempt any three questions.

5.(a) A well known ideal gas is enclosed in a container having volume $500\,cm^3$ at S.T.P. Its mass comes out to be 0.72 gram. What is the motor mass of this gas? 4

(b) Define Vapour Pressure. How vapour pressure is measured by Manometeric Method? 4

6.(a) Write eight postulates of Kinetic Molecular Theory of Gases. 4

(b) How charge to mass $\left(e/m\right)$ ratio of electron is measured? 4

7.(a) Give four postulates of Valence Shell Electron Pair Repulsion Theory. 4

(b) Describe Bomb Calorimeter. 4

8.(a) The solubility of PbF_2 at $25^\circ C$ is $0.64\,gm\,dm^{-3}$. Calculate K_{sp} of PbF_2. 4

(b) Explain construction and working of standard Hydrogen Electrode (SHE). 4

9.(a) Define Colligative Properties. How molecular mass of solute is determined by lowering in vapour pressure? 4

(b) What is meant by Enzyme Catalysis? Write reaction showing the catalysis of urea. Also write two characteristics of Enzyme Catalysis. 4

Paper Code Number: 2481

2017 (A)

Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (NEW SCHEME) (SESSION 2015-2017) GROUP-I

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) The volume occupied by 1.4 g of N_2 at S.T.P is:-

(A) 2.24 dm^3 (B) 22.4 dm^3 (C) 1.12 dm^3 (D) 112 cm^3

(2) The number of Isotopes of Cadmium is:-

(A) Six (B) Seven (C) Five (D) Nine

(3) Chromatography in which the stationary phase is a solid is classified as:- (A) Partition Chromatography (B) Gas Chromatography (C) Adsorption Chromatography (D) Thin layer Chromatography

(4) The molar volume of CO_2 is maximum at:-

(A) S.T.P. (B) 127°C and 1 atm (C) 0°C and 2 atm (D) 273°C and 2 atm

(5) Pressure remaining constant at which temperature the volume of a gas will become twice of what it is at 0°C. (A) 546°C (B) 200°C (C) 546 K (D) 273 K

(6) When water freezes at 0°C, its density decreases due to:-

(A) Empty spaces present in the structure of ice (B) Cubic structure of ice

(C) Change of bond lengths (D) Chang of bond angles

(7) _____ is a pseudosolid. (A) CaF_2 (B) Glass (C) $NaC\ell$ (D) $KC\ell$

(8) When 6d orbital is complete, the entering electron goes into:-

(A) 7f (B) 7s (C) 7p (D) 7d

(9) The wave number of the light emitted by a certain source is $2 \times 10^6\ m^{-1}$. The wavelength of this light will be:- (A) 500 nm (B) 500 m (C) 200 nm (D) $5 \times 10^7\ m$

(10) The $H-H$ bond energy in $KJ\ mole^{-1}$ is:- (A) 346 (B) 436 (C) 463 (D) 336

(11) _____ has zero dipole moment. (A) NH_3 (B) $CHC\ell_3$ (C) H_2O (D) BF_3

(12) The change in heat energy of a chemical reaction at constant temperature and pressure is called:-

(A) Enthalpy change (B) Heat of sublimation (C) Bond energy (D) Internal energy change

(13) The pH of $10^{-3}\ mole\ dm^{-3}$ of an aqueous solution of H_2SO_4 is:-

(A) 3.0 (B) 2.7 (C) 2.0 (D) 1.5

(14) ____ was derived by C.M. Guldberg and P. Waage in 1864. (A) Law of Conservation of Mass (B) Law of Mass Action (C) Distribution Law (D) Law of Conservation of Energy

(15) 18 g glucose is dissolved in 90 g of water. The relative lowering of vapour pressure is equal to:-

(A) $\frac{1}{5}$ (B) 5.1 (C) $\frac{1}{51}$ (D) 6

(16) The potential of standard Hydrogen Electrode is arbitrarily taken as:-

(A) 1.00 (B) 0.00 (C) 5.00 (D) 3.00

(17) Glucose is converted into ethanol by the enzyme:-

(A) Invertase (B) Urease (C) Zymase (D) Sucrase

Paper Code Number: 2483	2017 (A)	Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (NEW SCHEME) (SESSION 2015-2017) GROUP-I

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) The molar volume of CO_2 is maximum at:-

(A) S.T.P. (B) $127^\circ C$ and $1\,atm$ (C) $0^\circ C$ and $2\,atm$ (D) $273^\circ C$ and $2\,atm$

(2) Pressure remaining constant at which temperature the volume of a gas will become twice of what it is at $0^\circ C$. (A) $546^\circ C$ (B) $200^\circ C$ (C) $546\,K$ (D) $273\,K$

(3) When water freezes at $0^\circ C$, its density decreases due to:-

(A) Empty spaces present in the structure of ice (B) Cubic structure of ice

(C) Change of bond lengths (D) Chang of bond angles

(4) _____ is a pseudosolid. (A) CaF_2 (B) Glass (C) $NaC\ell$ (D) $KC\ell$

(5) When $6d$ orbital is complete, the entering electron goes into:-

(A) $7f$ (B) $7s$ (C) $7p$ (D) $7d$

(6) The wave number of the light emitted by a certain source is $2\times10^6\,m^{-1}$. The wavelength of this light will be:- (A) $500\,nm$ (B) $500\,m$ (C) $200\,nm$ (D) $5\times10^7\,m$

(7) The $H-H$ bond energy in $KJ\,mole^{-1}$ is:- (A) 346 (B) 436 (C) 463 (D) 336

(8) _____ has zero dipole moment. (A) NH_3 (B) $CHC\ell_3$ (C) H_2O (D) BF_3

(9) The change in heat energy of a chemical reaction at constant temperature and pressure is called:-

(A) Enthalpy change (B) Heat of sublimation (C) Bond energy (D) Internal energy change

(10) The pH of $10^{-3}\,mole\,dm^{-3}$ of an aqueous solution of H_2SO_4 is:-

(A) 3.0 (B) 2.7 (C) 2.0 (D) 1.5

(11) ____ was derived by C.M. Guldberg and P. Waage in 1864. (A) Law of Conservation of Mass

(B) Law of Mass Action (C) Distribution Law (D) Law of Conservation of Energy

(12) $18\,g$ glucose is dissolved in $90\,g$ of water. The relative lowering of vapour pressure is equal to:-

(A) $\frac{1}{5}$ (B) 5.1 (C) $\frac{1}{51}$ (D) 6

(13) The potential of standard Hydrogen Electrode is arbitrarily taken as:-

(A) 1.00 (B) 0.00 (C) 5.00 (D) 3.00

(14) Glucose is converted into ethanol by the enzyme:-

(A) Invertase (B) Urease (C) Zymase (D) Sucrase

(15) The volume occupied by $1.4\,g$ of N_2 at S.T.P is:-

(A) $2.24\,dm^3$ (B) $22.4\,dm^3$ (C) $1.12\,dm^3$ (D) $112\,cm^3$

(16) The number of Isotopes of Cadmium is:-

(A) Six (B) Seven (C) Five (D) Nine

(17) Chromatography in which the stationary phase is a solid is classified as:- (A) Partition Chromatography

(B) Gas Chromatography (C) Adsorption Chromatography (D) Thin layer Chromatography

Paper Code Number: 2485

2017 (A)

Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (NEW SCHEME) (SESSION 2015-2017) GROUP-I

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) The change in heat energy of a chemical reaction at constant temperature and pressure is called:-

(A) Enthalpy change (B) Heat of sublimation (C) Bond energy (D) Internal energy change

(2) The pH of 10^{-3} *mole* dm^{-3} of an aqueous solution of H_2SO_4 is:-

(A) 3.0 (B) 2.7 (C) 2.0 (D) 1.5

(3) ____ was derived by C.M. Guldberg and P. Waage in 1864. (A) Law of Conservation of Mass

(B) Law of Mass Action (C) Distribution Law (D) Law of Conservation of Energy

(4) 18 g glucose is dissolved in 90 g of water. The relative lowering of vapour pressure is equal to:-

(A) $\frac{1}{5}$ (B) 5.1 (C) $\frac{1}{51}$ (D) 6

(5) The potential of standard Hydrogen Electrode is arbitrarily taken as:-

(A) 1.00 (B) 0.00 (C) 5.00 (D) 3.00

(6) Glucose is converted into ethanol by the enzyme:-

(A) Invertase (B) Urease (C) Zymase (D) Sucrase

(7) The volume occupied by 1.4 g of N_2 at S.T.P is:-

(A) 2.24 dm^3 (B) 22.4 dm^3 (C) 1.12 dm^3 (D) 112 cm^3

(8) The number of Isotopes of Cadmium is:-

(A) Six (B) Seven (C) Five (D) Nine

(9) Chromatography in which the stationary phase is a solid is classified as:- (A) Partition Chromatography

(B) Gas Chromatography (C) Adsorption Chromatography (D) Thin layer Chromatography

(10) The molar volume of CO_2 is maximum at:-

(A) S.T.P. (B) 127°C and 1 atm (C) 0°C and 2 atm (D) 273°C and 2 atm

(11) Pressure remaining constant at which temperature the volume of a gas will become twice of what it is at 0°C. (A) 546°C (B) 200°C (C) 546 K (D) 273 K

(12) When water freezes at 0°C, its density decreases due to:-

(A) Empty spaces present in the structure of ice (B) Cubic structure of ice

(C) Change of bond lengths (D) Chang of bond angles

(13) _____ is a pseudosolid. (A) CaF_2 (B) Glass (C) $NaCl$ (D) KCl

(14) When 6d orbital is complete, the entering electron goes into:-

(A) 7f (B) 7s (C) 7p (D) 7d

(15) The wave number of the light emitted by a certain source is $2 \times 10^6\ m^{-1}$. The wavelength of this light will be:- (A) 500 nm (B) 500 m (C) 200 nm (D) $5 \times 10^7\ m$

(16) The $H-H$ bond energy in $KJ\ mole^{-1}$ is:- (A) 346 (B) 436 (C) 463 (D) 336

(17) _____ has zero dipole moment. (A) NH_3 (B) $CHCl_3$ (C) H_2O (D) BF_3

Paper Code Number: 2487	2017 (A)	Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (NEW SCHEME) (SESSION 2015-2017) GROUP-I

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) ____ was derived by C.M. Guldberg and P. Waage in 1864. (A) Law of Conservation of Mass (B) Law of Mass Action (C) Distribution Law (D) Law of Conservation of Energy

(2) 18 g glucose is dissolved in 90 g of water. The relative lowering of vapour pressure is equal to:-

(A) $\frac{1}{5}$ (B) 5.1 (C) $\frac{1}{51}$ (D) 6

(3) The potential of standard Hydrogen Electrode is arbitrarily taken as:-

(A) 1.00 (B) 0.00 (C) 5.00 (D) 3.00

(4) Glucose is converted into ethanol by the enzyme:-

(A) Invertase (B) Urease (C) Zymase (D) Sucrase

(5) The volume occupied by 1.4 g of N_2 at S.T.P is:-

(A) 2.24 dm^3 (B) 22.4 dm^3 (C) 1.12 dm^3 (D) 112 cm^3

(6) The number of Isotopes of Cadmium is:-

(A) Six (B) Seven (C) Five (D) Nine

(7) Chromatography in which the stationary phase is a solid is classified as:- (A) Partition Chromatography (B) Gas Chromatography (C) Adsorption Chromatography (D) Thin layer Chromatography

(8) The molar volume of CO_2 is maximum at:-

(A) S.T.P. (B) 127°C and 1 atm (C) 0°C and 2 atm (D) 273°C and 2 atm

(9) Pressure remaining constant at which temperature the volume of a gas will become twice of what it is at 0°C. (A) 546°C (B) 200°C (C) 546 K (D) 273 K

(10) When water freezes at 0°C, its density decreases due to:-

(A) Empty spaces present in the structure of ice (B) Cubic structure of ice (C) Change of bond lengths (D) Chang of bond angles

(11) _____ is a pseudosolid. (A) CaF_2 (B) Glass (C) $NaCl$ (D) KCl

(12) When 6d orbital is complete, the entering electron goes into:-

(A) 7f (B) 7s (C) 7p (D) 7d

(13) The wave number of the light emitted by a certain source is $2 \times 10^6\ m^{-1}$. The wavelength of this light will be:- (A) 500 nm (B) 500 m (C) 200 nm (D) 5×10^7 m

(14) The $H-H$ bond energy in $KJ\ mole^{-1}$ is:- (A) 346 (B) 436 (C) 463 (D) 336

(15) _____ has zero dipole moment. (A) NH_3 (B) $CHCl_3$ (C) H_2O (D) BF_3

(16) The change in heat energy of a chemical reaction at constant temperature and pressure is called:-

(A) Enthalpy change (B) Heat of sublimation (C) Bond energy (D) Internal energy change

(17) The pH of $10^{-3}\ mole\ dm^{-3}$ of an aqueous solution of H_2SO_4 is:-

(A) 3.0 (B) 2.7 (C) 2.0 (D) 1.5

2017 (A) Roll No: _____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (NEW SCHEME) (SESSION 2015-2017) GROUP-II

TIME ALLOWED: 2.40 Hours **SUBJECTIVE** MAXIMUM MARKS: 68

NOTE: - Write same question number and its part number on answer book, as given in the question paper.

SECTION-I

2. Attempt any eight parts. **8 × 2 = 16**

(i) N_2 and CO have same numbers of Electrons, Protons and Neutrons. Justify it, with reason.
(ii) Define Molecular Formula. Give two examples of the compounds having same empirical and molecular formulas.
(iii) No individual atom of Neon in the sample has a mass of 20.18 a.m.u. Give reason.
(iv) Define Crystallization. What is basic principle of crystallization?
(v) What is the difference between Adsorption and Partition Chromatography?
(vi) Write two salient features of an ideal solvent used in the process of Crystallization.
(vii) Calculate the value of Ideal gas constant 'R' in S.I. units.
(viii) What is Joule Thomson Effect?
(ix) Write two applications of Plasma.
(x) Give statement of "Law of Mass Action".
(xi) What is the effect of Catalyst on equilibrium position of a reaction?
(xii) Explain that a mixture of NH_4OH and $NH_4C\ell$ gives us the basic buffer.

3. Attempt any eight parts. **8 × 2 = 16**

(i) Why the boiling point of water is different at Murree hills and Mount Everest?
(ii) The values of boiling points of noble gases increase from top to bottom within a group. Give reason.
(iii) Define Unit Cell. Give one example.
(iv) The electrical conductivity of metals decreases with increase in temperature. Why?
(v) Sate Hund's rule. Give one example.
(vi) What is meant by fine structure of Hydrogen Spectrum?
(vii) What are $X-$rays? What is their origin?
(viii) Write balanced equations for any two nuclear reactions.
(ix) What is the difference between Zeotropic and Azeotropic solutions?
(x) What are Discontinuous Solubility Curves? Give one example.
(xi) What is Anodized Aluminium?
(xii) Write redox reactions which occur during discharging of lead accumulator battery?

4. Attempt any six parts. **6 × 2 = 12**

(i) The size of a cation is smaller than its parent atom. Prove.
(ii) Define Ionization Energy (IE) and Electron Affinity(EA).
(iii) The dipole moments of CO_2 and CS_2 are zero, but that of SO_2 is $1.61D$. Give reasons.
(iv) Why bond formation is not possible between two He atoms. Prove with Molecular Orbital Theory(MOT)?
(v) State the first Law of Thermochemistry.
(vi) Burning of a candle is a spontaneous process. Give reason.
(vii) A finally divided catalyst may prove more effective. Give reason.
(viii) Write two examples of Enzyme Catalyzed reactions.
(ix) What is Pseudo First Order Reaction?

SECTION-II

NOTE: - Attempt any three questions.

5.(a) A sample of liquid consisting of Carbon, Hydrogen and Oxygen was subjected to combustion analysis. 0.5439 g of compound gave 1.039 g of CO_2, 0.6369 g of water. Determine the empirical formula of the compound. 4
(b) What are Ionic Solids? Write six properties of Ionic Solids. 4

6.(a) State and explain Boyle's Law and verify this Law by an experiment. 4
(b) What is Cathode Ray Tube? Describe two properties of Cathode Rays. 4

7.(a) Describe Valence Shell Electron pair Repulsion Theory and give its postulates. Give example of structure of Ammonia Molecule by this theory. 4
(b) Define Enthalpy and derive Enthalpy change at constant pressure. 4

8.(a) What is Voltaic Cell? Explain with one example. 4
(b) The solubility of PbF_2 at 25^oC is $0.64\,gm/dm^3$. Calculate K_{SP} of PbF_2. 4

9.(a) Explain Lowering of Vapour Pressure by adding a Non-volatile, Non electrolyte solute in a solvent. 4
(b) What is Half Life Period? Give examples, also give its mathematical form. 4

Paper Code Number: 2482	2017 (A)	Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (NEW SCHEME) (SESSION 2015-2017) GROUP-II

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) The mass of one mole of electron is:-

(A) $1.008\,g$ (B) $0.55\,mg$ (C) $0.184\,mg$ (D) $1.673\,mg$

(2) The largest number of molecules are present in:-

(A) $3.6\,g$ of H_2O (B) $4.8\,g$ of C_2H_5OH (C) $2.8\,g$ of CO (D) $5.4\,g$ of N_2O_5

(3) Solvent extraction is an equilibrium process and it is controlled by:- (A) Law of Mass Action (B) The amount of Solvent used (C) Distribution Law (D) The amount of Solute

(4) If absolute temperature of a gas is doubled and pressure is reduced to one half, the volume of gas will:-

(A) Remain unchanged (B) Increase four times (C) Reduce to $\frac{1}{4}$ (D) Be doubled

(5) The order of rate of diffusion of gases NH_3, SO_2, $C\ell_2$ and CO_2 is:- (A) $NH_3 > SO_2 > C\ell_2 > CO_2$ (B) $NH_3 > CO_2 > SO_2 > C\ell_2$ (C) $C\ell_2 > SO_2 > CO_2 > NH_3$ (D) $NH_3 > CO_2 > C\ell_2 > SO_2$

(6) The boiling point of pure water at $1\,atm$ pressure is:-

(A) $98^\circ C$ (B) $100^\circ C$ (C) $69^\circ C$ (D) $120^\circ C$

(7) Ionic solids are characterized by:- (A) Low melting points (B) Good conductivity in solid state (C) High vapour pressure (D) Solubility in polar solvents

(8) When $6d$ orbital is complete, the entering electron goes into:-

(A) $7f$ (B) $7s$ (C) $7p$ (D) $7d$

(9) The velocity of Photon is:- (A) Independent of its wavelength (B) Equal to square of its amplitude (C) Depends on its wavelength (D) Depends on its source

(10) ____ Hydrogen Halide has the highest percentage of ionic character.

(A) $HC\ell$ (B) HBr (C) HF (D) HI

(11) The bond order of N_2 is:- (A) 2 (B) 3 (C) 4 (D) 1

(12) For the reaction $NaOH + HC\ell \longrightarrow NaC\ell + H_2O$ the change in enthalpy is called:-

(A) Heat of reaction (B) Heat of formation (C) Heat of Neutralization (D) Heat of Combustion

(13) The pH of $10^{-3}\ mole\ dm^{-3}$ of an aqueous solution of H_2SO_4 is:-

(A) 3.0 (B) 2.7 (C) 2.0 (D) 1.5

(14) The ionization constant of pure water at $25^\circ C$ is:- (A) $1.8 \times 10^{-16}\ mole\ dm^{-3}$ (B) $1.6 \times 10^{-14}\ mole\ dm^{-3}$ (C) $1.0 \times 10^{-16}\ mole^2\ dm^{-6}$ (D) $1.8 \times 10^{-14}\ mole^2\ dm^{-6}$

(15) The molal boiling point constant is the ratio of the elevation in boiling point to:-

(A) Molarity (B) Molality (C) Mole fraction of solute (D) Mole fraction of solvent

(16) The oxidation number of Fluorine in OF_2 is:- (A) $+2$ (B) -2 (C) -1 (D) $+1$

(17) The unit of the rate constant is the same as that of rate of reaction in:-

(A) 1st order reaction (B) 2nd order reaction (C) Zero order reaction (D) 3rd order reaction

Paper Code Number: 2484

2017 (A)

Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (NEW SCHEME) (SESSION 2015-2017) GROUP-II

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) If absolute temperature of a gas is doubled and pressure is reduced to one half, the volume of gas will:-

(A) Remain unchanged (B) Increase four times (C) Reduce to $\frac{1}{4}$ (D) Be doubled

(2) The order of rate of diffusion of gases NH_3, SO_2, $C\ell_2$ and CO_2 is:- (A) $NH_3 > SO_2 > C\ell_2 > CO_2$

(B) $NH_3 > CO_2 > SO_2 > C\ell_2$ (C) $C\ell_2 > SO_2 > CO_2 > NH_3$ (D) $NH_3 > CO_2 > C\ell_2 > SO_2$

(3) The boiling point of pure water at $1\,atm$ pressure is:-

(A) 98^oC (B) 100^oC (C) 69^oC (D) 120^oC

(4) Ionic solids are characterized by:- (A) Low melting points

(B) Good conductivity in solid state (C) High vapour pressure (D) Solubility in polar solvents

(5) When $6d$ orbital is complete, the entering electron goes into:-

(A) $7f$ (B) $7s$ (C) $7p$ (D) $7d$

(6) The velocity of Photon is:- (A) Independent of its wavelength

(B) Equal to square of its amplitude (C) Depends on its wavelength (D) Depends on its source

(7) ____ Hydrogen Halide has the highest percentage of ionic character.

(A) $HC\ell$ (B) HBr (C) HF (D) HI

(8) The bond order of N_2 is:- (A) 2 (B) 3 (C) 4 (D) 1

(9) For the reaction $NaOH + HC\ell \longrightarrow NaC\ell + H_2O$ the change in enthalpy is called:-

(A) Heat of reaction (B) Heat of formation (C) Heat of Neutralization (D) Heat of Combustion

(10) The pH of $10^{-3}\ mole\ dm^{-3}$ of an aqueous solution of H_2SO_4 is:-

(A) 3.0 (B) 2.7 (C) 2.0 (D) 1.5

(11) The ionization constant of pure water at 25^oC is:- (A) $1.8 \times 10^{-16}\ mole\ dm^{-3}$

(B) $1.6 \times 10^{-14}\ mole\ dm^{-3}$ (C) $1.0 \times 10^{-14}\ mole^2\ dm^{-6}$ (D) $1.8 \times 10^{-14}\ mole^2\ dm^{-6}$

(12) The molal boiling point constant is the ratio of the elevation in boiling point to:-

(A) Molarity (B) Molality (C) Mole fraction of solute (D) Mole fraction of solvent

(13) The oxidation number of Fluorine in OF_2 is:- (A) +2 (B) −2 (C) −1 (D) +1

(14) The unit of the rate constant is the same as that of rate of reaction in:-

(A) 1st order reaction (B) 2nd order reaction (C) Zero order reaction (D) 3rd order reaction

(15) The mass of one mole of electron is:-

(A) $1.008\,g$ (B) $0.55\,mg$ (C) $0.184\,mg$ (D) $1.673\,mg$

(16) The largest number of molecules are present in:-

(A) $3.6\,g$ of H_2O (B) $4.8\,g$ of C_2H_5OH (C) $2.8\,g$ of CO (D) $5.4\,g$ of N_2O_5

(17) Solvent extraction is an equilibrium process and it is controlled by:- (A) Law of Mass Action

(B) The amount of Solvent used (C) Distribution Law (D) The amount of Solute

Paper Code Number: 2486	2017 (A)	Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (NEW SCHEME) (SESSION 2015-2017) GROUP-II

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) The bond order of N_2 is:- (A) 2 (B) 3 (C) 4 (D) 1

(2) For the reaction $NaOH + HC\ell \longrightarrow NaC\ell + H_2O$ the change in enthalpy is called:-

(A) Heat of reaction (B) Heat of formation (C) Heat of Neutralization (D) Heat of Combustion

(3) The pH of 10^{-3} *mole* dm^{-3} of an aqueous solution of H_2SO_4 is:-

(A) 3.0 (B) 2.7 (C) 2.0 (D) 1.5

(4) The ionization constant of pure water at $25^{\circ}C$ is:- (A) 1.8×10^{-16} *mole* dm^{-3}

(B) 1.6×10^{-14} *mole* dm^{-3} (C) 1.0×10^{-14} *mole*^{2} dm^{-6} (D) 1.8×10^{-14} *mole*^{2} dm^{-6}

(5) The molal boiling point constant is the ratio of the elevation in boiling point to:-

(A) Molarity (B) Molality (C) Mole fraction of solute (D) Mole fraction of solvent

(6) The oxidation number of Fluorine in OF_2 is:- (A) +2 (B) −2 (C) −1 (D) +1

(7) The unit of the rate constant is the same as that of rate of reaction in:-

(A) 1st order reaction (B) 2nd order reaction (C) Zero order reaction (D) 3rd order reaction

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(A) 1.008 *g* (B) 0.55 *mg* (C) 0.184 *mg* (D) 1.673 *mg*

(9) The largest number of molecules are present in:-

(A) 3.6 *g* of H_2O (B) 4.8 *g* of C_2H_5OH (C) 2.8 *g* of CO (D) 5.4 *g* of N_2O_5

(10) Solvent extraction is an equilibrium process and it is controlled by:- (A) Law of Mass Action

(B) The amount of Solvent used (C) Distribution Law (D) The amount of Solute

(11) If absolute temperature of a gas is doubled and pressure is reduced to one half, the volume of gas will:-

(A) Remain unchanged (B) Increase four times (C) Reduce to $\frac{1}{4}$ (D) Be doubled

(12) The order of rate of diffusion of gases NH_3, SO_2, $C\ell_2$ and CO_2 is:- (A) $NH_3 > SO_2 > C\ell_2 > CO_2$

(B) $NH_3 > CO_2 > SO_2 > C\ell_2$ (C) $C\ell_2 > SO_2 > CO_2 > NH_3$ (D) $NH_3 > CO_2 > C\ell_2 > SO_2$

(13) The boiling point of pure water at 1 *atm* pressure is:-

(A) $98^{\circ}C$ (B) $100^{\circ}C$ (C) $69^{\circ}C$ (D) $120^{\circ}C$

(14) Ionic solids are characterized by:- (A) Low melting points

(B) Good conductivity in solid state (C) High vapour pressure (D) Solubility in polar solvents

(15) When $6d$ orbital is complete, the entering electron goes into:-

(A) $7f$ (B) $7s$ (C) $7p$ (D) $7d$

(16) The velocity of Photon is:- (A) Independent of its wavelength

(B) Equal to square of its amplitude (C) Depends on its wavelength (D) Depends on its source

(17) ____ Hydrogen Halide has the highest percentage of ionic character.

(A) $HC\ell$ (B) HBr (C) HF (D) HI

Paper Code Number: 2488	2017 (A)	Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (NEW SCHEME) (SESSION 2015-2017) GROUP-II

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) The ionization constant of pure water at $25^{\circ}C$ is:- (A) $1.8 \times 10^{-16}\ mole\ dm^{-3}$ (B) $1.6 \times 10^{-14}\ mole\ dm^{-3}$ (C) $1.0 \times 10^{-14}\ mole^2\ dm^{-6}$ (D) $1.8 \times 10^{-14}\ mole^2\ dm^{-6}$

(2) The molal boiling point constant is the ratio of the elevation in boiling point to:-
(A) Molarity (B) Molality (C) Mole fraction of solute (D) Mole fraction of solvent

(3) The oxidation number of Fluorine in OF_2 is:- (A) $+2$ (B) -2 (C) -1 (D) $+1$

(4) The unit of the rate constant is the same as that of rate of reaction in:-
(A) 1st order reaction (B) 2nd order reaction (C) Zero order reaction (D) 3rd order reaction

(5) The mass of one mole of electron is:-
(A) $1.008\,g$ (B) $0.55\,mg$ (C) $0.184\,mg$ (D) $1.673\,mg$

(6) The largest number of molecules are present in:-
(A) $3.6\,g$ of H_2O (B) $4.8\,g$ of C_2H_5OH (C) $2.8\,g$ of CO (D) $5.4\,g$ of N_2O_5

(7) Solvent extraction is an equilibrium process and it is controlled by:- (A) Law of Mass Action
(B) The amount of Solvent used (C) Distribution Law (D) The amount of Solute

(8) If absolute temperature of a gas is doubled and pressure is reduced to one half, the volume of gas will:-
(A) Remain unchanged (B) Increase four times (C) Reduce to $\frac{1}{4}$ (D) Be doubled

(9) The order of rate of diffusion of gases NH_3, SO_2, $C\ell_2$ and CO_2 is:- (A) $NH_3 > SO_2 > C\ell_2 > CO_2$
(B) $NH_3 > CO_2 > SO_2 > C\ell_2$ (C) $C\ell_2 > SO_2 > CO_2 > NH_3$ (D) $NH_3 > CO_2 > C\ell_2 > SO_2$

(10) The boiling point of pure water at $1\,atm$ pressure is:-
(A) $98^{\circ}C$ (B) $100^{\circ}C$ (C) $69^{\circ}C$ (D) $120^{\circ}C$

(11) Ionic solids are characterized by:- (A) Low melting points
(B) Good conductivity in solid state (C) High vapour pressure (D) Solubility in polar solvents

(12) When $6d$ orbital is complete, the entering electron goes into:-
(A) $7f$ (B) $7s$ (C) $7p$ (D) $7d$

(13) The velocity of Photon is:- (A) Independent of its wavelength
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(14) ____ Hydrogen Halide has the highest percentage of ionic character.
(A) $HC\ell$ (B) HBr (C) HF (D) HI

(15) The bond order of N_2 is:- (A) 2 (B) 3 (C) 4 (D) 1

(16) For the reaction $NaOH + HC\ell \longrightarrow NaC\ell + H_2O$ the change in enthalpy is called:-
(A) Heat of reaction (B) Heat of formation (C) Heat of Neutralization (D) Heat of Combustion

(17) The pH of $10^{-3}\ mole\ dm^{-3}$ of an aqueous solution of H_2SO_4 is:-
(A) 3.0 (B) 2.7 (C) 2.0 (D) 1.5

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN (New Scheme)

OBJECTIVE KEY FOR INTER (PART-I / II) Annual Examination, 2017.

Name of Subject: Chemistry   Session: 2015-17

Group: 1st

Q. Nos.	Paper Code 2481	Paper Code 2483	Paper Code 2485	Paper Code 2487
1.	C	B	A	B
2.	D	C	B	C
3.	C	A	B	B
4.	B	B	C	C
5.	C	C	B	C
6.	A	A	C	D
7.	B	B	C	C
8.	C	D	D	B
9.	A	A	C	C
10.	B	B	B	A
11.	D	B	C	B
12.	A	C	A	C
13.	B	B	B	A
14.	B	C	C	B
15.	C	C	A	D
16.	B	D	B	A
17.	C	C	D	B
18.				
19.				
20.				

Group: 2nd

Q. Nos.	Paper Code 2482	Paper Code 2484	Paper Code 2486	Paper Code 2488
1.	B	B	B	C
2.	A	B	C	B
3.	C	B	B	C
4.	B	D	C	C
5.	B	C	B	B
6.	B	A	C	A
7.	D	C	C	C
8.	C	B	B	B
9.	A	C	A	B
10.	C	B	C	B
11.	B	C	B	D
12.	C	B	B	C
13.	B	C	B	A
14.	C	C	D	C
15.	B	B	C	B
16.	C	A	A	C
17.	C	C	C	B
18.				
19.				
20.				

سرٹیفیکیٹ بابت تصحیح سوالیہ پرچہ / مارکنگ Key

ہم نے مضمون کیمسٹری پرچہ 1st گروپ I+II سکیم FSc انٹر سالانہ / ضمنی امتحان 2017 کا سوالیہ پرچہ انشائیہ معروضی (Subjective & Objevtive) کو بنظر عمیق چیک کرلیا ہے یہ پرچہ سلیبس کے عین مطابق Set کیا گیا ہے۔اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کرلیا ہے یہ Version آپس میں مطابقت رکھتے ہیں اور سلیبس (Syllabus) کے مطابق بھی ہیں۔نیز اس پرچہ کی Key کی بابت بھی تصدیق کی جاتی ہے کہ یہ بھی درست بنائی گئی ہے۔اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔

مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کرکے ان کا بغور مطالعہ کرلیا ہے اور ان کی روشنی میں Key بنائی ہے۔

PREPARED & CHECKED BY

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2017 (A) Roll No: _____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (OLD SCHEME) (SESSION 2012-2014) GROUP-I

TIME ALLOWED: 3.10 Hours **SUBJECTIVE** MAXIMUM MARKS: 83

NOTE: - Write same question number and its part number on answer book, as given in the question paper.

SECTION-I

2. Attempt any eight parts. **8 × 2 = 16**

(i) How do you deduce the fractional atomic masses of elements from the relative isotopic abundances? Give example of Ne.

(ii) Isotopes have same chemical properties. Why?

(iii) Calculate number of grams in $0.1g$ of Na.

(iv) What is Distribution Coefficient? To which techniques it is applied?

(v) Differentiate between Partition and Adsorption Chromatography.

(vi) Mention major steps involved in Crystallization. (any four)

(vii) Verify Boyle's Law using Kinetic equation of Gases.

(viii) Define Joule – Thomson Effect. Give its significance.

(ix) Write two applications of Plasma.

(x) Define common ion effect. Give two examples.

(xi) What is the effect of common ion on solubility of ionic compounds?

(xii) Why do the rate of forward reactions slow down with passage of time?

3. Attempt any eight parts. **8 × 2 = 16**

(i) Give two uses of Liquid Crystals.

(ii) Why Sodium is softer than Copper? Justify with reason.

(iii) "Water is liquid at room temperature while H_2S is gas". Explain this statement.

(iv) Explain cleavage of crystals and cleavage plane.

(v) Write the nuclear equation for the discovery of Neutrons.

(vi) What is the Origin of Line Spectrum?

(vii) Write two properties of Neutrons.

(viii) Which particles are formed by the decay of free neutron? Give an equation.

(ix) Define Electrolytic Cell. Give its example.

(x) Write two functions of Salt Bridge.

(xi) Calculate the oxidation number of Chromium in $K_2Cr_2O_7$.

(xii) What are Hydrates? Give example.

4. Attempt any six parts. **6 × 2 = 12**

(i) Differentiate Bonding Molecular Orbital and Antibonding Molecular Orbital.

(ii) Why is Sigma Bond stronger than Pi bond?

(iii) Define Ionization Energy. Why the second ionization energy is higher than that of first?

(iv) Why the Dipole moment of CO_2 is zero and that of H_2O is 1.85 D?

(v) Define State and State Function.

(vi) How will you determine Enthalpy of formation of CO using Hess's Law?

(vii) Define average rate of reaction. Give its uses.

(viii) What are Enzymes? Give their two characteristics.

(ix) How surface area affects the rate of a chemical reaction?

P.T.O

SECTION-II

NOTE: - Attempt any three questions of the following:-

5.(a) Define the terms with example. 4
(i) Mole (ii) Avogadro's number (iii) Molar Gas Volume (iv) Empirical formula

(b) What are Liquid Crystals? Give their uses. (any three) 4

6.(a) What are Quantum Numbers? Describe Principle Quantum Number 'n' 4

(b) $250\,cm^3$ of the sample of Hydrogen effuses four times rapidly as $250\,cm^3$ of an unknown gas. Calculate the molar mass of an unknown gas. 4

7.(a) Describe Molecular Orbital Theory to show formation of bonding and antibonding molecular orbitals. Which types of molecular orbitals are formed by linear and parallel overlaps of two p – orbitals? 4

(b) Explain working of bomb calorimeter to estimate heat of combustion of organic compound. 4

8.(a) The solubility product of Ag_2CrO_4 is 2.6×10^{-2} at $25^{\circ}C$. Calculate the solubility of the compound. 4

(b) How rate of a chemical reaction depends upon nature of reactants and surface area? 4

9.(a) What is Boiling Point Elevation? How boiling point elevation of a solution is determined? 4

(b) Discuss the construction and working of Electrolytic Cell. 4

SECTION-III (PRACTICAL PART)

10. NOTE:- (i) Attempt any three parts. (3 x 5 = 15)

(ii) Write down material required, diagram and procedure for part A & B. (1 + 1 + 3) = 5

(iii) Write down standard solution, chemical equation with mole ratio, indicator with end point, procedure and supposed readings with calculations for part C, D & E. (1 + 1 + 1 + 1 + 1) = 5

(A) The given solution contains $8\,g$ of Oxalic Acid and Sodium Oxalate in $1000\,Cm^3$. Determine the percentage of Sodium Oxalate.

(B) Determine the value of x in a solution containing $27.8\,g$ of $FeSO_4.xH_2O$ dissolved per dm^3.

(C) Determine the amount of I_2 per dm^3 in the given sample solution. You are provided with 0.1 M $Na_2S_2O_3$ solution.

(D) Purify a given sample of common salt by passing $HC\ell$ gas:-

(E) Separate and identify lead and cadmium ions in a mixture of their salts by paper chromatography.

Paper Code Number: 6481

2017 (A) Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (OLD SCHEME) (SESSION 2012-2014) GROUP-I

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) 27 g of $A\ell$ will react completely with _____ mass of O_2 to produce $A\ell_2O_3$.

(A) 8 g of Oxygen (B) 16 g of Oxygen (C) 24 g of Oxygen (D) 32 g of Oxygen

(2) The comparative rates at which the solutes move in paper chromatography mainly depends on:-

(A) Size of paper used (B) R_f values of solutes

(C) Temperature of the experiment (D) Size of chromatographic tank used

(3) The partial pressure of Oxygen in the lungs is:-

(A) 760 torr (B) 310 torr (C) 159 torr (D) 116 torr

(4) Vapour pressure of a substance does not depend upon:-

(A)Temperature (B) Inter-molecular forces (C) Surface area (D) Geometrical shape of molecules

(5) The quantum number values for $2p$ orbitals are:-

(A) $n = 2,\ \ell = 1$ (B) $n = 1,\ \ell = 2$ (C) $n = 1,\ \ell = 0$ (D) $n = 1,\ \ell = 1$

(6) ____ Hydrogen halides has the highest percentage of ionic character.

(A) HF (B) $HC\ell$ (C) HBr (D) HI

(7) If an endothermic reaction is allowed to take place very rapidly in the air, the temperature of the surrounding air:- (A) Remains constant (B) Increases (C) Decreases (D) Remains unchanged

(8) pH of 0.001 M $NaOH$ solution is:- (A) 3 (B) 1 (C) 11 (D) 12

(9) The molal boiling point constant is the ratio of the elevation in boiling point to:-

(A) Molarity (B) Molality (C) Mole fraction of solute (D) Mole fraction of solvent

(10) Stronger the oxidizing agent, greater is the:-

(A) Oxidation potential (B) Reduction potential (C) Redox potential (D) EMF of the cell

(11) The unit of rate constant is same as that of the rate of reaction in:-

(A) Zero order reaction (B) First order reaction (C) Second order reaction (D) Third order reaction

(12) The number of $C\ell^-$ ions per unit cell in $NaC\ell$ is:- (A) 2 (B) 4 (C) 6 (D) 8

(13) One mole of SO_2 contains:- (A) 6.02×10^{23} atoms of Oxygen

(B) 18.1×10^{23} molecules of SO_2 (C) 6.02×10^{23} atoms of Sulphur (D) 4 gram atoms of SO_2

(14) Number of molecules in one dm^3 of water is close to:-

(A) $\frac{6.02 \times 10^{23}}{22.4}$ (B) $\frac{12.04}{22.4} \times 10^{23}$ (C) $\frac{18}{22.4} \times 10^{23}$ (D) $55.6 \times 6.02 \times 10^{23}$

(15) The nature of the positive rays depend upon the:- (A) Nature of the electrode

(B) Nature of the discharge tube (C) Nature of the residual gas (D) All of these

(16) Each Carbon atom of Ethene has Hybridization:-

(A) sp (B) sp^2 (C) sp^3 (D) dsp^2

(17) A solution of pH = 0 indicates molar concentration of H^+ ions:-

(A) 10^{-7} (B) 10^7 (C) 1.0 (D) 10^{-14}

Paper Code Number: 6483	2017 (A)	Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (OLD SCHEME) (SESSION 2012-2014) GROUP-I

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) The nature of the positive rays depend upon the:- (A) Nature of the electrode (B) Nature of the discharge tube (C) Nature of the residual gas (D) All of these

(2) Each Carbon atom of Ethene has Hybridization:-

(A) sp (B) sp^2 (C) sp^3 (D) dsp^2

(3) A solution of pH = 0 indicates molar concentration of H^+ ions:-

(A) 10^{-7} (B) 10^{7} (C) 1.0 (D) 10^{-14}

(4) $27\,g$ of $A\ell$ will react completely with _____ mass of O_2 to produce $A\ell_2O_3$.

(A) 8 g of Oxygen (B) 16 g of Oxygen (C) 24 g of Oxygen (D) 32 g of Oxygen

(5) The comparative rates at which the solutes move in paper chromatography mainly depends on:-

(A) Size of paper used (B) R_f values of solutes

(C) Temperature of the experiment (D) Size of chromatographic tank used

(6) The partial pressure of Oxygen in the lungs is:-

(A) 760 torr (B) 310 torr (C) 159 torr (D) 116 torr

(7) Vapour pressure of a substance does not depend upon:-

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(9) ____ Hydrogen halides has the highest percentage of ionic character.

(A) HF (B) $HC\ell$ (C) HBr (D) HI

(10) If an endothermic reaction is allowed to take place very rapidly in the air, the temperature of the surrounding air:- (A) Remains constant (B) Increases (C) Decreases (D) Remains unchanged

(11) pH of 0.001 M $NaOH$ solution is:- (A) 3 (B) 1 (C) 11 (D) 12

(12) The molal boiling point constant is the ratio of the elevation in boiling point to:-

(A) Molarity (B) Molality (C) Mole fraction of solute (D) Mole fraction of solvent

(13) Stronger the oxidizing agent, greater is the:-

(A) Oxidation potential (B) Reduction potential (C) Redox potential (D) EMF of the cell

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(16) One mole of SO_2 contains:- (A) 6.02×10^{23} atoms of Oxygen

(B) 18.1×10^{23} molecules of SO_2 (C) 6.02×10^{23} atoms of Sulphur (D) 4 gram atoms of SO_2

(17) Number of molecules in one dm^3 of water is close to:-

(A) $\frac{6.02 \times 10^{23}}{22.4}$ (B) $\frac{12.04}{22.4} \times 10^{23}$ (C) $\frac{18}{22.4} \times 10^{23}$ (D) $55.6 \times 6.02 \times 10^{23}$

Paper Code Number: 6485	2017 (A) INTERMEDIATE PART-I (11th CLASS)	Roll No._____

CHEMISTRY PAPER-I (OLD SCHEME) (SESSION 2012-2014) GROUP-I

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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Q.No.1

(1) If an endothermic reaction is allowed to take place very rapidly in the air, the temperature of the surrounding air:- (A) Remains constant (B) Increases (C) Decreases (D) Remains unchanged

(2) pH of 0.001 M $NaOH$ solution is:- (A) 3 (B) 1 (C) 11 (D) 12

(3) The molal boiling point constant is the ratio of the elevation in boiling point to:-
(A) Molarity (B) Molality (C) Mole fraction of solute (D) Mole fraction of solvent

(4) Stronger the oxidizing agent, greater is the:-
(A) Oxidation potential (B) Reduction potential (C) Redox potential (D) EMF of the cell

(5) The unit of rate constant is same as that of the rate of reaction in:-
(A) Zero order reaction (B) First order reaction (C) Second order reaction (D) Third order reaction

(6) The number of $C\ell^-$ ions per unit cell in $NaC\ell$ is:- (A) 2 (B) 4 (C) 6 (D) 8

(7) One mole of SO_2 contains:- (A) 6.02×10^{23} atoms of Oxygen
(B) 18.1×10^{23} molecules of SO_2 (C) 6.02×10^{23} atoms of Sulphur (D) 4 gram atoms of SO_2

(8) Number of molecules in one dm^3 of water is close to:-
(A) $\frac{6.02 \times 10^{23}}{22.4}$ (B) $\frac{12.04}{22.4} \times 10^{23}$ (C) $\frac{18}{22.4} \times 10^{23}$ (D) $55.6 \times 6.02 \times 10^{23}$

(9) The nature of the positive rays depend upon the:- (A) Nature of the electrode
(B) Nature of the discharge tube (C) Nature of the residual gas (D) All of these

(10) Each Carbon atom of Ethene has Hybridization:-
(A) sp (B) sp^2 (C) sp^3 (D) dsp^2

(11) A solution of pH = 0 indicates molar concentration of H^+ ions:-
(A) 10^{-7} (B) 10^7 (C) 1.0 (D) 10^{-14}

(12) 27 g of $A\ell$ will react completely with _____ mass of O_2 to produce $A\ell_2O_3$.
(A) 8 g of Oxygen (B) 16 g of Oxygen (C) 24 g of Oxygen (D) 32 g of Oxygen

(13) The comparative rates at which the solutes move in paper chromatography mainly depends on:-
(A) Size of paper used (B) R_f values of solutes
(C) Temperature of the experiment (D) Size of chromatographic tank used

(14) The partial pressure of Oxygen in the lungs is:-
(A) 760 torr (B) 310 torr (C) 159 torr (D) 116 torr

(15) Vapour pressure of a substance does not depend upon:-
(A)Temperature (B) Inter-molecular forces (C) Surface area (D) Geometrical shape of molecules

(16) The quantum number values for $2p$ orbitals are:-
(A) $n = 2,\ \ell = 1$ (B) $n = 1,\ \ell = 2$ (C) $n = 1,\ \ell = 0$ (D) $n = 1,\ \ell = 1$

(17) _____ Hydrogen halides has the highest percentage of ionic character.
(A) HF (B) $HC\ell$ (C) HBr (D) HI

Paper Code Number: 6487	2017 (A) INTERMEDIATE PART-I (11th CLASS)	Roll No._____

CHEMISTRY PAPER-I (OLD SCHEME) (SESSION 2012-2014) GROUP-I

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

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(A)Temperature (B) Inter-molecular forces (C) Surface area (D) Geometrical shape of molecules

2017 (A) Roll No: _____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (OLD SCHEME) (SESSION 2012-2014) GROUP-II

TIME ALLOWED: 3.10 Hours **SUBJECTIVE** MAXIMUM MARKS: 83

NOTE: - Write same question number and its part number on answer book, as given in the question paper.

SECTION-I

2. Attempt any eight parts. **8 × 2 = 16**

(i) Why actual yield of a chemical reaction may be less than the theoretical yield?

(ii) What is a Molecular Ion? How is it generated?

(iii) Define Stoichiometry. What are assumptions necessary for Stoichiometric Calculations?

(iv) What is a good method for drying of the crystallized substance?

(v) Describe briefly, the method of sublimation.

(vi) Name any four methods for separation and purification of products.

(vii) Write quantitative definition of Charles's law.

(viii) Derive SI units of General Gas Constant R.

(ix) Write down formulas for converting ^{o}C into F^{o} and F^{o} into centigrade.

(x) What is the effect of change of pressure on the direction of following reaction?
$2SO_2 + O_2 \rightleftharpoons 2SO_3$

(xi) Define pH and pOH.

(xii) What is meant by Ionization Constant of Acids?

3. Attempt any eight parts. **8 × 2 = 16**

(i) Evaporation of a liquid cause cooling. Explain it.

(ii) What are dipole – induced dipole forces?

(iii) Define Transition Temperature. Give an example.

(iv) Cleavage of crystals is itself anisotropic behaviour. Explain it.

(v) What is Pauli Exclusion Principle?

(vi) Write two defects of Rutherford Atomic Model.

(vii) What is Stork Effect?

(viii) Define Frequency and Wave number.

(ix) Sum of mole fraction is equal to unity. Justify the statement.

(x) What is Discontinuous Solubility Curve? Give an example.

(xi) Define Oxidation Number. What is oxidation number of Phosphorous in H_3PO_4.

(xii) Write the reactions of electrodes of silver oxide battery.

4. Attempt any six parts. **6 × 2 = 12**

(i) Why the Electron Affinity of Chlorine is greater than Fluorine?

(ii) The dipole moment of CO_2 and CS_2 are zero, but that of SO_2 is $1.61D$. Give reason.

(iii) Define Electronegativity. How it varies along the period of periodic table?

(iv) Write Lewis structure of (a) H_2SO_4 (b) N_2O_5

(v) Justify that heat of formation of a compound is the sum of all the other enthalpies.

(vi) How will you differentiate between ΔE and ΔH?

(vii) Differentiate between Homogeneous and Heterogeneous Catalysis.

(viii) Rate of chemical reaction is an ever changing parameter under the given condition. Justify the statement.

(ix) What do you mean by Autocatalysis? Explain with an example.

P.T.O

SECTION-II

NOTE: - Attempt any three questions of the following:-

5.(a) What is Limiting Reactant? How does it control the quantity of the product formed? Explain with example. 4

(b) What are Liquid Crystals? Give their uses in daily life. 4

6.(a) Calculate the density of CH_4 at $0^\circ C$ and 1 atmospheric pressure. What will happen to the density if temperature is increased to $27^\circ C$? 4

(b) What are Positive Rays? How are they produced? Write down their properties. 4

7.(a) Draw molecular orbital diagram showing relative energies of O_2 and N_2. 4

(b) Describe measurement of Enthalpy of reaction by Glass Calorimeter. 4

8.(a) Solubility of CaF_2 in water at $25^\circ C$ is found to be 2.05×10^{-4} mol dm^{-3}. What is value of K_{sp} at this temperature? 4

(b) Write a brief note on energy of Activation. 4

9.(a) What is Molal Boiling Point Constant? How can we determine the Molar Mass of an unknown solid by elevation of Boiling Point Method? 4

(b) What is Electrochemical Series? Give its three applications. 4

SECTION-III (PRACTICAL PART)

10. NOTE:- (i) Attempt any three parts. (3 x 5 = 15)

(ii) Write down material required, diagram and procedure for part A & B. (1 + 1 + 3) = 5

(iii) Write down standard solution, chemical equation with mole ratio, indicator with end point, procedure and supposed readings with calculations for part C, D & E. (1 + 1 + 1 + 1 + 1) = 5

(A) Prepare Crystals of Benzoic Acid from Saturated Solution.

(B) Separate a mixture of inks by Paper Chromatography.

(C) The given solution contains 10.0 g of washing soda dissolved per dm^3. Determine % of Na_2CO_3 in the given sample.

(D) The given solution contain 30.0 g of $FeSO_4 . 7H_2O$ per dm^3. Find out % age of Fe in the given sample.

(E) The given solution contains 30.0 g of $Na_2S_2O_3 . 5H_2O$ dissolved per dm^3. Determine % age purity of the sample.

Paper Code Number: 6482	2017 (A)	Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (OLD SCHEME) (SESSION 2012-2014) GROUP-II

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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Q.No.1

(1) Isotopes differ in:-

(A) Properties which depend upon mass (B) Arrangement of electrons in orbitals

(C) Chemical properties (D) The extent to which they may be affected in electromagnetic field

(2) The volume occupied by 1.4 g of N_2 at STP is:-

(A) 2.24 dm^3 (B) 22.4 dm^3 (C) 1.12 dm^3 (D) 112 cm^3

(3) Solvent extraction is an equilibrium process and it is controlled by:- (A) Law of mass action

(B) The amount of solvent used (C) Distribution law (D) The amount of solute

(4) Pressure remaining constant, at which temperature the volume of a gas will become twice of what it is at 0° C. (A) 546° C (B) 200° C (C) 546 K (D) 273 K

(5) The order of the rate of diffusion of gases NH_3, SO_2, $C\ell_2$ and CO_2 is:-

(A) $NH_3 > SO_2 > C\ell_2 > CO_2$ (B) $NH_3 > CO_2 > SO_2 > C\ell_2$

(C) $C\ell_2 > SO_2 > CO_2 > NH_3$ (D) $C\ell_2 > CO_2 > SO_2 > NH_3$

(6) When water freezes at 0° C, its density decreases due to:- (A) Cubic structure of ice

(B) Empty space present in the structure of ice (C) Change of bond lengths (D) Change of bond angles

(7) The molecules of CO_2 in dry ice form the:-

(A) Ionic crystals (B) Covalent crystals (C) Molecular crystals (D) Any type of crystals

(8) In the ground state of an atom, the electron is present:-

(A) In the nucleus (B) In the second shell (C) Nearest to the nucleus (D) Farthest from the nucleus

(9) Orbitals having same energy are called:-

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(10) _____ species has unpaired electrons in antibonding molecular orbitals.

(A) O_2^{+2} (B) N_2^{-2} (C) B_2 (D) F_2

(11) In a group of periodic table, ionization energy:-

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(14) The pH of 10^{-3} mole dm^{-3} of an aqueous solution of H_2SO_4 is:- (A) 3.0 (B) 2.0 (C) 1.5 (D) 2.7

(15) An aqueous solution of Ethanol in water has vapour pressure:- (A) Equal to that of water

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(A) Promoter (B) Activator (C) Inhibitor (D) Positive catalyst

Paper Code Number: 6484	2017 (A)	Roll No._____

INTERMEDIATE PART-I (11th CLASS)

CHEMISTRY PAPER-I (OLD SCHEME) (SESSION 2012-2014) GROUP-II

TIME ALLOWED: 20 Minutes **OBJECTIVE** MAXIMUM MARKS: 17

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Paper Code Number: 6486

2017 (A)

Roll No._____

INTERMEDIATE PART-I (11th CLASS)

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Paper Code Number: 6488	2017 (A) INTERMEDIATE PART-I (11th CLASS)	Roll No._____

CHEMISTRY PAPER-I (OLD SCHEME) (SESSION 2012-2014) GROUP-II

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BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN (Old Scheme)

OBJECTIVE KEY FOR INTER (PART-I / ~~II~~) Annual Examination, 2017

Name of Subject: Chemistry   Session (2012 – 14)

Group: 1st

Q. Nos.	Paper Code 6481	Paper Code 6483	Paper Code 6485	Paper Code 6487
1.	C	C	C	A
2.	B	B	C	A
3.	D	C	B	C
4.	D	C	B	C
5.	A	B	A	B
6.	A	D	B	B
7.	C	D	C	A
8.	C	A	D	B
9.	B	A	C	C
10.	B	C	B	D
11.	A	C	C	C
12.	B	B	C	B
13.	C	B	B	C
14.	D	A	D	C
15.	C	B	D	B
16.	B	C	A	D
17.	C	D	A	D
18.				
19.				
20.				

Group: 2nd

Q. Nos.	Paper Code 6482	Paper Code 6484	Paper Code 6486	Paper Code 6488
1.	A	C	C	C
2.	C	A	C	B
3.	C	C	C	B
4.	C	A	B	C
5.	B	C	A	C
6.	B	C	C	C
7.	C	C	A	B
8.	C	B	D	A
9.	C	B	C	C
10.	B	C	A	A
11.	A	C	C	D
12.	C	C	A	C
13.	A	B	C	A
14.	D	A	C	C
15.	C	C	C	A
16.	A	A	B	C
17.	C	D	B	C
18.				
19.				
20.				

سرٹیفیکیٹ بابت تصحیح سوالیہ پرچہ/مارکنگ Key

ہم نے مضمون Chemistry پرچہ I گروپ I & II سکیم Old انٹر سالانہ/ضمنی امتحان 2017 کے سوالیہ پرچہ نمبر بیٹ معروضی (Subjective & Objevtive) کو بنظر عمیق چیک کر لیا ہے یہ پرچہ سلیبس کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کر لیا ہے یہ Version آپس میں مطابقت رکھتے ہیں اور سلیبس (Syllabus) کے مطابق بھی ہیں۔ نیز اس پرچہ کی Key کی بابت بھی تصدیق کی جاتی ہے کہ یہ بھی درست بنائی گئی ہے۔ اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔
مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔

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