PAPER CODE - 6482

11th CLASS – 1st Annual 2023

CHEMISTRY
GROUP : SECOND DGK-11-2-23 **OBJECTIVE**
TIME: 20 MINUTES
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.

QUESTION NO. 1

1 27 g of Al will react completely with how much of O_2 to produce Al_2O_3
(A) 8 g of O_2 (B) 16 g of O_2 (C) 24 g of O_2 (D) 32 g of O_2

2 The phenomenon of isotopy was first discovered by
(A) Soddy (B) Berzelius (C) Rutherford (D) Dalton

3 The solid which undergo sublimation
(A) NaCl (B) KBr (C) I_2 (D) KCl

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

5 Critical temperature of water vapours is
(A) 647.6 K (B) 405.6 K (C) 384.7 K (D) 304.3 K

6 In order to raise the boiling point of water up to 110 °C the external pressure should be
(A) Between 760 torr and 1200 torr (B) Between 200 torr and 760 torr (C) 765 torr
(D) Any value of pressure

7 Which of the following is pseudo solid
(A) CaF_2 (B) Glass (C) NaCl (D) NH_4Cl

8 Orbitals having same energy are called
(A) Hybrid orbitals (B) Valence orbitals (C) Degenerate orbitals (D) d – orbitals

9 Which of the following species has unpaired electron in antibonding molecular orbital
(A) O_2^{2+} (B) N_2^{2-} (C) B_2 (D) F_2

10 The heat of atomization of chlorine is
(A) 90 kj/mole (B) 95 kj/mole (C) 110 kj/mole (D) 121 kj/mole

11 The net heat change in a reaction is same whether it is brought about in one or several steps.It is known as
(A) Henry's law (B) Joule-principle (C) Hess's law (D) Law of conservation of energy

12 Equilibrium constant for the reaction at 2000 °C $2\,HF(g) \rightleftharpoons H_2(g) + F_2(g)$ is
(A) 10^{-5} (B) 10^{-7} (C) 10^{-9} (D) 10^{-13}

13 pH value for 1.0 M HCl solution is
(A) 0.0 (B) 0.5 (C) 0.7 (D) 0.8

14 A solution of glucose is 10 % w/v . The volume in which 1 g mole is dissolved will be
(A) 1 dm^3 (B) 1.8 dm^3 (C) 200 cm^3 (D) 900 cm^3

15 A single cell in lead accumulator battery provides
(A) 1 volt (B) 2 volts (C) 3 volts (D) 4 volts

16 Reaction which is responsible for production of electricity in voltaic cell is
(A) Redox reaction (B) Oxidation reaction (C) Reduction reaction (D) Hydrolysis

17 With increase of 10 °C temperature the rate of reaction doubles. This increase in rate of reaction is due to
(A) Decrease in activation energy of reaction
(B) Decrease in number of collision between reactant molecules
(C) Increase in activation energy of reactants (D) Increase in number of effective collisions

PakistaniPakistan.com

CHEMISTRY | **SUBJECTIVE** | **TIME : 2:40 HOURS**
GROUP : SECOND | **SECTION-I** | **MARKS : 68**

DGK-11-2-23

QUESTION NO. 2 Write short answers of any Eight (8) parts of the following **16**

i	What is molecular ion ? How it can be generated ?
ii	Differentiate between Empirical formula and Molecular formula
iii	No individual Neon atom in the sample of the element has a mass of 20.18 amu. Justify
iv	What is aqueous tension ? How you can find pressure of a gas over water in the laboratory ?
v	Write two causes for deviation from ideality
vi	Derive the value of ideal gas constant ' R ' when the pressure is in Nm^{-2} and volume in m^3
vii	The e/m value for positive rays obtained from hydrogen gas is 1836 times less than that of cathode rays. Justify it
viii	Write shapes of p-orbital
ix	State Heisenberg's uncertainty principle. Write its mathematical form
x	Define enthalpy of combustion. Give one example
xi	Differentiate between system and surrounding
xii	What exothermic reaction ? Give one example

QUESTION NO. 3 Write short answers of any Eight (8) parts of the following **16**

i	What is discontinuous solubility curve ? Give one example
ii	Define mole fraction. Give its mathematical form
iii	What do you mean by water of crystallization ? Give two examples
iv	Define the term " Activation of catalyst "
v	What is pseudo first order reaction ? Give an example
vi	Define heterogeneous catalysis with an example
vii	Earthenware vessels keep water cool. Explain with reason
viii	Define Transition temperature with an example
ix	Write down any two uses of liquid crystals
x	State distribution law
xi	What is the difference between Gooch's crucible and sintered glass crucible ?
xii	Define crystallization. What is basic principle of crystallization ?

QUESTION NO. 4 Write short answers of any Six (6) parts of the following **12**

i	What is bond order ? Give example
ii	Why water molecule has bent structure rather than tetrahedral geometry ?
iii	What is Electronegativity ?
iv	What are Basic Buffers ? Give example
v	Define law of mass action
vi	Reaction is exothermic but still the temperature of 400 – 500 °C is required to increase the yield of SO_3 . Give reason
vii	Define oxidation state. Give example
viii	What is electrolytic conduction ?
ix	Define Electro Chemical series

PakhoPakistan.com

SECTION-II

Note: Attempt any Three questions from this section **8 × 3 = 24**

Q.5 (A)	Discuss the existence of an atom through experimental evidence of an atom
(B)	What pressure is exerted by a mixture of 2.0 g of H_2 and 8.0 g of N_2 at 273 K in a 10 dm^3 vessel
Q.6 (A)	What are molecular solids ? Give their properties
(B)	Discuss first law of thermodynamics and prove that $\Delta E = q_v$
Q.7 (A)	Describe J.J Thomson experiment to measure e/m value of electron
(B)	The solubility product of Ag_2CrO_4 is 2.6×10^{-2} at 25 °C . Calculate the solubility of the compound
Q.8 (A)	What is meant by VSEPR theory ? Explain in detail , Also discuss structures of BF_3 and CH_4 in the light of VSEPR theory
(B)	Discuss electrode potential. How electrode potential is measured by SHE
Q.9 (A)	What are non ideal solutions discuss their types and give three examples of each
(B)	What is chemical kinetics ? How do you compare chemical kinetics with chemical equilibrium