

SHRI SHANTADURGA HIGHER SECONDARY SCHOOL

BICHOLIM - GOA

MID-TERM PRACTICE TEST (2020-21)

Subject: Chemistry

Date: 21 /11/2020

Class: XI Science

Maximum Marks: 20

Duration: 1 hour

INSTRUCTIONS:

- 1) All questions are compulsory, however question 4 and 10 has internal choice.
- 2) Use of calculator is not permitted, however logarithmic table may be used.
- 3) Every question should be attempted only once.
- 4) Section-A consists of 4 questions of 1 mark each.
Section-B consists of 3 questions of 2 marks each.
Section-C consists of 2 questions of 3 marks each.
Section-D consists of 1 question of 4 marks.

$N_A = 6.022 \times 10^{23}$, Planck's constant = 6.626×10^{-34} Js, $C = 3 \times 10^8$ ms⁻¹

Atomic masses : H=1u He =4u N=14u O=16 u Na =23u Ca=40u

SECTION - A

- Q.1 The number of water molecules present in 18g of water is _____. 01
* 1.2044×10^{24} * 6.022×10^{22} * 3.011×10^{23} * 6.022×10^{23}
- Q.2 The frequency of a electromagnetic wave with wavelength $\lambda=600$ nm is 01
_____.
* 0.5×10^{15} s⁻¹ * 5×10^{15} s⁻¹ * 0.5×10^{16} s⁻¹ * 5.5×10^{12} s⁻¹
- Q.3 Write the IUPAC nomenclature for the following 01
a) The element which is named after scientist Dmitri Mendeleev.
b) The element with highest atomic number present in Modern periodic table.
- Q.4 Write a point of difference between Orbit and Orbital. 01
OR
- Q.4 Write a point of difference between absorption spectrum and emission spectrum. 01

SECTION - B

- Q.5 How would you justify the presence of 18 elements in the 4th period of the Periodic Table? 02
- Q.6 Answer the following questions with respect to p block elements. 02
a) Which group elements are coming under p block elements?
b) Write the general electronic configuration of these elements.
- Q.7 Write the four postulates of Bohr's model of atom. 02

SECTION - C

- Q.8 (i) An organic compound contains 38.8% of Carbon; 16.2% of hydrogen ; 45.1% of nitrogen. Calculate its empirical formula. 03
(ii) At STP, what volume of $H_2(g)$ is needed to react completely with 8.02×10^{23} molecules of $CO(g)$?
 $CO(g) + 2 H_2(g) \rightarrow CH_3OH(g)$

- Q.9 Answer the following: 03
i) Designate the orbital notation for $n=3$ and $l=2$
ii) Write electronic configuration for Ne ($Z=10$)
iii) State Heisenberg uncertainty principle with its mathematical expression

SECTION - D

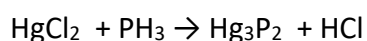
- Q.10 Answer the following questions: 04
i) Define Normality.
ii) 1.75g of NaOH is dissolved to make 550ml of solution. Determine Molarity of the solution. Density of solution = 2.13g/ml
($H=1$, $O=16$, $Na=23$)

iii) For the reaction: $A + B_2 \rightarrow AB_2$

Identify the limiting reagent for the following reaction mixture.

6 moles of A and 7 moles of B

iv) Balance the following chemical reaction:



OR

04

- Q.10 Answer the following questions:

- i) Define Limiting reagent.
ii) The density of 4M solution of NaCl is $1.25g\ ml^{-1}$. Calculate molality of the solution.
iii) Calculate mass percentage of oxygen in $C_6H_{12}O_6$.
($H=1$, $C=12$, $O=16$)
iv) Balance the following chemical reaction:
 $Ag + PCl_5 \rightarrow AgCl + PCl_3$
