INDIAN SCHOOL AL WADI AL KABIR

UNIT TEST (2024-25)
Sub: Chemistry (043)
SET-1

Date: 02.06.2024 **Max. Marks: 30**
Class: XI **Time Allowed: 01 hour**

Q.NO	ANSWERS	MARKS
1	(b) definite proportion	1
2	(b) 52.9 pm	1
3	(c) Both flasks have same no: of moles	1
4	(a) 6 moles of HCl	1
5	(c) 46 u	1
6	(c) $C_8H_{20}S_2$	1
7	(b) Both A and R are true but R is not the correct explanation of A.	
8	(d) A is false but R is true.	
9	(a) 3 atoms (b) 3/30 ×100 = 10% OR (a) It is defined as the number of moles of solute present in 1 kg of solvent. (b) Depends on Mass. Mass is unaffected	1 1 1 1
10	Any two limitations	1×2
11	(a) One mole is the amount of a substance that contains as many particles or entities as there are atoms in exactly 12 g (or 0.012 kg) of the $_{12}C$ isotope. (b) No of moles= 0.01 mol No of molecules = 6.022×10^{21} No of atoms = 132.484×10^{21} atoms	1 ½ ½ 1
12	$\Delta E = -2.09 \times 10^{-18}$ J Frequency = 0.315×10^{16} Hz Wavelength = 9.52×10^{-8} m	1 1 1
13	(a) Formula, explanation (b) Mole fraction of NaCl= 0.33 Mole fraction of H_2O = 0.66 OR (a) (b) Formula Substitution Molarity = 1 M	½ ×2 1 1 1 ½ ½ 1
14	(a)	1

	$m_e v r = n.\frac{h}{2\pi}$ $n = 1,2,3.....$ explain the terms	1
	(b) $v = \frac{\Delta E}{h} = \frac{E_2 - E_1}{h}$ explain the terms	½
	(c)	½
	Formula	1
	Substitution	
	$E = -8.72 \times 10^{-18}$J	
	OR	
	(c)	½
	Formula	½
	Substitution	1
	r_n= 70.53 pm	
15.	(a) If two elements can combine to form more than one compound, the masses of one element that combine with a fixed mass of the other element, are in the ratio of small whole numbers.	1
	(b) C = 40%	1
	H = 6.66%	1
	O = 53.33%	
	(c) No: of moles= mass/molar mass /Vol of solution in L	½
	0.01 = mass/40 /0.5	½
	Mass = 0.2 g	1
	OR	
	(a) (i) CH_3 (ii) CH_3OH	½ ×2
	(b) The reactant which is present in the least amount gets consumed after sometime and after that further reaction does not take place whatever be the amount of the other reactant.	1
	(c) No of moles of Na= 1 mol	½ ×2
	No: of moles of S= 0.5 mol	½
	LR/ER	½
	Moles of Na_2S = 0.5 mol	1
	Mass of Na_2S = 39 g	