Path t	ALLE CAREER INSTITU KOTA (RAJASTHA	Regular Analysis th	rough Continuous Exercise	JEE (Main + Advanced) 2022 NURTURE COURSE
RA	CE # 02			PHYSICAL CHEMISTRY
				MAX. IIME : 20 Min.
Single correct :				
1.	A pure sample of $CaCO_3$ contain 100 moles of total atoms. What is the mass of sample of CaCO ₃ contain 100 moles of total atoms.			
	(A) 1 kg	(B) 2.5 kg	(C) 2.0 kg	(D) 1.66 kg
2.	If the weight of one atom is $\frac{16}{N_A}$ gm and it form X ₂ type gas. How many grams of X ₂ is required to x_1 is required to x_2 type x_2 is required to x_2 type x_2 at x_2 at x_2 is required to x_2 at x_2 a			
	up the gas vessel wi	th volume 350 mL at 0°C	and to obtain the pressu	ire 2 atm -
	(A) 1 gm	(B) 16 gm	(C) 8 gm	(D) 32 gm
3.	One atom of an element X weighs 6×10^{-23} gm. Number of moles of atoms in 3.6 kg of sample of X w be : (N _A = 6×10^{23})			
	(A) 40	(B) 0.04	(C) 100	(D) 1000
4	0.36 gm of a triatomic gas, X_3 , occupies 168 ml at 1 atm & 273 K. The atomic weight of X is			
	(A) 48	(B) 16	(C) 24	(D) 12
5	Which of the following will occupy greater volume under the similar conditions of pressure and temperature?			
	(A) 6 gm oxygen		(B) 0.98 gm hydro	gen
	(C) 5.25 gm nitrogen		(D) 1.32 gm helium	
6	The number of electron in 3.1 mg NO_3^- is -			
	(A) 32	(B) 1.6×10^{-3}	(C) 9.6×10^{20}	(D) 9.6×10^{23}
Mul	tiple correct :			
7.	One gm of each ${}_{1}H^{1}$, ${}_{8}O^{16}$, ${}_{6}C^{14}$, ${}_{92}U^{238}$ have -			
	(A) same atoms	(B) same protons	(C) same nucleons	(D) Same electrons
8.	The number of oxygen atoms present in 20.4 g of Al_2O_3 are equal to the number of :			o the number of :
	(A) Oxygen atoms	in 3.6 g of water	(B) Oxygen atoms in 5.4 g of water	

- (C) Hydrogen atoms in 5.4 g of water (D) Hydrogen atoms in 10.8 g of water 9. 1 mol of ${}^{14}_{7}$ N⁻³ ions contains :
 - (A) 7 N_A electrons (B) 7 N_A protons (C) 7 N_A neutrons (D) 14 N_A protrons
- 10. $1.61 \text{ gm of Na}_2 \text{SO}_4.10 \text{H}_2 \text{O}$ contains same number of oxygen atoms as present in
(A) 0.98 gm $\text{H}_2 \text{SO}_4$ (B) 0.08 gm SO_3
 - (C) 1.78 gm $H_2S_2O_7$ (D) 0.05 gm CaCO₃