

Daily Tutorial Sheet-15

Level - 3

159.(A) The molecule surely contains atleast one atom of Ti and hence two atoms of Mg i.e. 96 gm of the

$$\text{Molar Mass } 96 \leq \frac{0.016}{100} \text{ of } x$$

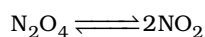
$$x \geq 6,00,000$$

160.(A) N_2 , NO_2 , N_2O_4

$$x \quad y \quad 1-x-y$$

$$1 = \frac{28x + 46y + (1-x-y)92}{55.4}$$

$$36.6 = 64x + 46y$$



$$(2(1-x-y) + x + y) = \frac{28x + 46(2-2x-y)}{39.6}$$

$$39.6(2-x-y) = 28x + 46(2-2x-y)$$

$$6.1x + 1.6y = 3.2 \Rightarrow x = 0.5, y = 0.1$$

161.(B) $C_6H_{14}N_2O_2$ M.M = 146 g/mol

There must be atleast one molecules of lysine molecule of protein.

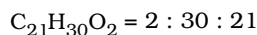
365 mg of lysine $\approx$ 100 g protein.

$$146 \text{ g of lysine} \approx \frac{100}{365} \times 10^3 \times 146 \text{ g protein} = 40,000 \text{ g protein.}$$

162.(A)

	M.M.	% H_2O
(a)	399.5	27.03%
(b)	381.5	23.
(c)	531.5	> 27.03%
(d)	475.5	> 27.03%

163.(B) $O : H : C = 1 : 15 : 10.5$



$$\text{M.M} = \frac{1}{0.00318} = 314 \therefore C_{21}H_{30}O_2$$

164.(D) $H_2S + CuCl_2 \longrightarrow CuS + 2HCl$

$$\text{Molarity of } CuCl_2 = \frac{2.69}{134.5} = 0.02$$

Moles of $CuCl_2$ is 100 ml = 0.002 = moles of H_2S required

At STP

22.4 L $\longrightarrow$ 1 mole of gas

22.4 $\times$ 0.002L $\longrightarrow$ 0.002 moles of gas

44.8 ml