پاسخ تشریحی ص ۸۱

$C_6H_{12}O_6$

آ) $?\,mol\,O_2 = 2.5\,mol\,C_6H_{12}O_6 \times \frac{6\,mol\,O_2}{1\,mol\,C_6H_{12}O_6} = 15\,mol\,O_2$

ب) $?\,L\,O_2 = 15\,mol\,O_2 \times \frac{22.4\,L\,O_2}{1\,mol\,O_2} = 336\,L\,O_2$

پ) $?\,g\,O_2 = 15\,mol\,O_2 \times \frac{32\,g\,O_2}{1\,mol\,O_2} = 480\,g\,O_2$

ت) $?\,g\,H_2O = 2.5\,mol\,C_6H_{12}O_6 \times \frac{6\,mol\,CO_2}{1\,mol\,C_6H_{12}O_6} \times \frac{6\,mol\,H_2O}{6\,mol\,CO_2} \times \frac{18\,g\,H_2O}{1\,mol\,H_2O} = 270\,g\,H_2O$

ث) $?\,L\,CO_2 = 2.5\,mol\,C_6H_{12}O_6 \times \frac{6\,mol\,CO_2}{1\,mol\,C_6H_{12}O_6} \times \frac{22.4\,L\,CO_2}{1\,mol\,CO_2} = 336\,L\,CO_2$

تمرین های دوره ای :

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آ) $NH_3 = 1\times14 + 3\times1 = 17\ g\ mol^{-1}$

$$?\,mol\,H_2 = 42.5\,kg\,NH_3 \times \frac{1000\,g\,NH_3}{1\,kg\,NH_3} \times \frac{1\,mol\,NH_3}{17\,g\,NH_3} \times \frac{3\,mol\,H_2}{2\,mol\,NH_3} = 3750\,mol\,H_2$$

ب) $N_2 = 28\ g\ mol^{-1}$

$$?\,g\,H_2 = 3290\,L\,NH_3 \times \frac{1\,mol\,NH_3}{22.4\,L\,NH_3} \times \frac{3\,mol\,H_2}{2\,mol\,NH_3} \times \frac{2\,g\,H_2}{1\,mol\,H_2} = 440\,g\,H_2$$

$$?\,g\,N_2 = 3290\,L\,NH_3 \times \frac{1\,mol\,NH_3}{22.4\,L\,NH_3} \times \frac{1\,mol\,N_2}{2\,mol\,NH_3} \times \frac{28\,g\,N_2}{1\,mol\,H_2} = 2100\,g\,N_2$$

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آ) $2CH_4 + 3O_2 \longrightarrow 2CO + 4H_2O +$ گرما

$$?\,L\,CO = 84\,g\,CH_4 \times \frac{1\,mol\,CH_4}{16\,g\,CH_4} \times \frac{2\,mol\,CO}{2\,mol\,CH_4} \times \frac{22.4\,L\,CO}{1\,mol\,CO} = 94.2\,L\,CO$$