Model Question paper

Chemical Calculations 2

11th Standard

Chemistry

Reg.No. : | | | | | | |

I. Answer all the questions.

II. Use blue pen only.

Time : 00:30:00 Hrs

Total Marks : 20

Part - A

8 x 1 = 8

1) Which one among the following is the standard for atomic mass?

(a) H (b) $^{12}_{6}C$ (c) $^{14}_{6}C$ (d) $^{16}_{8}O$

2) Which of the following pair of species have same number of atoms under similar conditions?

(a) 1L each of SO_2 and CO_2 (b) 2L each of O_3 and O_2 (c) 1L each of NH_3 and Cl_2 (d) 1L each of NH_3 and 2L of So_2

3) 2.0 oxygen contains number of atoms same as in

(a) 4g of S (b) 7g of nitrogen (c) 0.5 g of H_2 (d) 12.3 g of Na

4) The number of gm-molecules of oxygen in 6.02 x 10^{24} CO molecules is

(a) 1 gm-molecule (b) 0.5 gm-molecule (c) 5 gm-molecule (d) 10 gm-molecule

5) Hydrogen phosphate of certain metal has a formula $MHPO_4$, the formula of metal chloride is

(a) MC1 (b) $MC1_3$ (c) $MC1_2$ (d) $MC1_4$

6) A compound contains 50 % of X (atomic mass 10) and 50 % Y (at. mass 20). Which formulate pertain to above date?

(a) XY (b) X_2Y (c) X_4Y_3 (d) $(X_2)_3Y_3$

7) Which of the following compound has/have percentage of carbon same as that in ethylene (C_2H_4) ?

(a) propene (b) Cyclohexane (c) Ethyne (d) Benzene

8) 5L of 0.1 M solution of sodium Carbonate contains

(a) 53 g of Na_2CO_3 (b) 106 g of Na_2CO_3 (c) 10.6 of Na_2CO_3 (d) 5 x 10^2 millimoles of Na_2CO_3

Part - B

4 x 3 = 12

9) Can two different compounds have same molecular formula? Illustrate your answer with two examples.

10) What are the essentials of a chemical equation?

11) What are the information conveyed by a chemical equation?

12) Balance the following equations

i. $Fe + H_2O \rightarrow Fe_3O_4 + H_2$

ii. $Fe_2(SO_4)_3 + NH_3 + H_2O \rightarrow Fe(OH)_3 + (NH_4)_2SO_4$

iii. $KMnO_4 + H_2SO_4 \rightarrow K_2SO_4 + MnSO_4 + H_2O + O_2$

iv . $K_2Cr_2O_7 + H_2SO_4 \rightarrow K_2SO_4 + Cr_2(SO_4)_3 + H_2O + O_2$

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