

Model Question paper
Chemical Calculations 1

11th Standard

Chemistry

Reg.No. :

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I. Answer all the questions.

II. Use blue pen only.

Time : 00:30:00 Hrs

Total Marks : 25

13 x 1 = 13

Part - A

- 1) The volume occupied by 16g of oxygen at STP
(a) 22.4 L (b) 44.8 L (c) 11.2 L (d) 5.6 L
- 2) Avogadro's number represents the number of atoms in
(a) 12g of C¹² (b) 320g of S (c) 32g of Oxygen (d) 12.7g of iodine.
- 3) The value of gram molecular volume of ozone at S.T.P is
(a) 22.4 L (b) 2.24 L (c) 11.2 L (d) 67.2 L
- 4) The number of atoms present in 0.5gram-atoms of Nitrogen is same as the atoms in
(a) 12g of C (b) 32g of S (c) 8g of the oxygen (d) 24g of magnesium.
- 5) The number of gram-atoms of oxygen in 128g of oxygen is
(a) 4 (b) 8 (c) 128 (d) $8 \times 6.02 \times 10^{23}$
- 6) The total number of moles present in 111 g of C₃Cl₂ is
(a) One moles (b) Two moles (c) Three moles (d) Four moles
- 7) Which of the following weighs the most?
(a) One gram-atom of nitrogen (b) One mole of water (c) One mole of Sodium (d) One molecule of H₂SO₄
- 8) Which of the following contains same number of carbon atoms as are in 6.0g of carbon (C-12)?
(a) 6.0g ethane (b) 8.0g methane (c) 21.0g Propane (d) 28.0g CO
- 9) Which of the following contains maximum number of atoms?
(a) 2.0g hydrogen (b) 2.0g oxygen (c) 2.0g nitrogen (d) 2.0g methane
- 10) Which one among the following is the standard for atomic mass?
(a) H (b) ¹²₆C (c) ¹⁴₆C (d) ¹⁶₈O
- 11) Which of the following pair of species have same number of atoms under similar conditions?
(a) 1L each of SO₂ and CO₂ (b) 2L each of O₃ and O₂ (c) 1L each of NH₃ and Cl₂ (d) 1L each of NH₃ and 2L of SO₂
- 12) 2.0 oxygen contains number of atoms same as in
(a) 4g of S (b) 7g of nitrogen (c) 0.5 g of H₂ (d) 12.3 g of Na
- 13) The number of gm-molecules of oxygen in 6.02×10^{24} CO molecules is
(a) 1 gm-molecule (b) 0.5 gm-molecule (c) 5 gm-molecule (d) 10 gm-molecule

Part - B

4 x 3 = 12

- 14) Can two different compounds have same molecular formula? Illustrate your answer with two examples.
- 15) What are the essentials of a chemical equation?
- 16) What are the information conveyed by a chemical equation?
- 17) Balance the following equations
 - i. $\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$
 - ii. $\text{Fe}_2(\text{SO}_4)_3 + \text{NH}_3 + \text{H}_2\text{O} \rightarrow \text{Fe}(\text{OH})_3 + (\text{NH}_4)_2\text{SO}_4$
 - iii. $\text{KMnO}_4 + \text{H}_2\text{SO}_4 \rightarrow \text{K}_2\text{SO}_4 + \text{MnSO}_4 + \text{H}_2\text{O} + \text{O}_2$
 - iv. $\text{K}_2\text{Cr}_2\text{O}_7 + \text{H}_2\text{SO}_4 \rightarrow \text{K}_2\text{SO}_4 + \text{Cr}_2(\text{SO}_4)_3 + \text{H}_2\text{O} + \text{O}_2$
