Yakeen NEET 2.0 2026

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Some Basic Concept of Chemistry

DPP: 7

Q1 When 200 g of lime stone is strongly heated, it undergoes thermal decomposition to form 112 g of lime an unknown mass of carbon dioxide gas as $\underset{200\text{ g}}{\mathrm{CaCO_3}} \rightarrow \underset{112\text{ g}}{\mathrm{CaO}} + \mathrm{CO_2}$ What will be the mass of $\mathrm{CO_2}$ formed?
(A) 88 g
(B) 24 g
(C) 64 g
(D) 40 g

Q2 The law of conservation of mass is valid for all the following, except
(A) All chemical reactions
(B) Nuclear reactions
(C) Endothermic reactions
(D) Exothermic reactions

Q3 After a chemical reaction, the total mass of reactants and products
(A) Is always increased
(B) Is always decreased
(C) Is not changed
(D) Is always less or more

Q4 Which of the following is the best example of law of conservation of mass
(A) 12 g of carbon combines with 32 g of oxygen to form 44 g of $\mathrm{CO_2}$
(B) When 12 g of carbon is heated in a vacuum there is no change in mass
(C) A sample of air increases in volume when heated at constant pressure but its mass remains unaltered
(D) The weight of a piece of platinum is the same before and after heating in air

Q5 Chemical equation is balanced according to the law of
(A) Multiple proportion
(B) Reciprocal proportion
(C) Conservation of mass
(D) Definite proportions

Q6 What mass of NaCl would be decomposed by 98 g of H_2SO_4 if 120 g of $NaHSO_4$ and 27.5 g of HCl are produced in a reaction. Assuming that law of mass conservation is true :
(A) 4.95 g (B) 49.5 g
(C) 0.495 g (D) 495 g

Q7 Which of the following statements is correct about the reaction given below?
$4\mathrm{Fe(s)} + 3\mathrm{O_2(\ g)} \rightarrow 2\mathrm{Fe_2O_3(\ g)}$
(A) Total mass of iron and oxygen in reactants $=$ total mass of iron and oxygen in product therefore it follows law of conservation of mass
(B) Total mass of reactants $=$ total mass of product, therefore, law of multiple proportions is followed
(C) Amount of $\mathrm{Fe_2O_3}$ can be increased by taking any one of the reactants (iron or oxygen) in excess
(D) Amount of $\mathrm{Fe_2O_3}$ produced will decrease if the amount of any one of the reactants (iron or oxygen) is taken in excess

Q8 Which of the following data illustrates the law of conservation of mass?
(A) 56 g of C reacts with 32 g of Oxygen to produce 44 g of $\mathrm{CO_2}$
(B) 1.70 g of $\mathrm{AgNO_3}$ reacts with 100 ml of $0.1M$ HCl to produce 1.435 g of AgCl and 0.63 g of $\mathrm{HNO_3}$
(C) 12 g of C is heated in vacuum and on cooling, there is no change in mass
(D) 36 g of S reacts with 16 g of $\mathrm{O_2}$ to produce 48 g of $\mathrm{SO_2}$

Q9 "The total mass of reactants is always equal to the total mass of products in a chemical reaction". This statement is konwn as:
(A) Law of conservation of mass
(B) Law of definite proportions
(C) Law of equivalent weights
(D) Law of combining masses

Q10 If law of conservation of mass was to hold true, then 20.8 g of $\mathrm{BaCl_2}$ on reaction with 9.8 g of $\mathrm{H_2\ SO_4}$ will produce 7.3 g of HCl and $\mathrm{BaSO_4}$ equal to:
(A) 11.65 g (B) 23.3 g
(C) 25.5 g (D) 30.6 g

Q11

The law of conservation of mass holds good for all of the following except.
(A) All chemical reactions
(B) Nuclear reaction
(C) Endothermic reactions
(D) Exothermic reactions

Q12 When 100 g of ethylene polymerises entirely to polyethene, the weight of polyethene formed as per the equation
$n\,(C_2H_4) \longrightarrow (-CH_2 - CH_2-)_n$ is:
(A) $(n/2)g$
(B) 100 g
(C) $(100/n)g$
(D) $100ng$

Q13 A sample of pure carbon dioxide, irrespective of its source contains 27.27% carbon and 72.73% oxygen. The data support
(A) Law of constant composition
(B) Law of conservation of mass
(C) Law of reciprocal proportions
(D) Law of multiple proportions

Q14 The percentage of copper and oxygen in samples of CuO obtained by different methods were found to be the same. This illustrates the law of
(A) Constant proportions
(B) Conservation of mass
(C) Multiple proportions
(D) Reciprocal proportions

Q15 The gravimetric composition of water as $H:O$ is:
(A) $1:1$ (B) $1:2$
(C) $1:8$ (D) $1:16$

Q16 "The percentage of Mn and oxygen in a sample of MnO obtained by different methods were found to be the same." The above statements belong to which law;
(A) Law of conservation of mass
(B) Avogadro's law
(C) Law of constant proportions
(D) Law of gaseous volume

Q17 The law of definite proportions is not applicable to nitrogen oxide because
(A) Nitrogen atomic weight is not constant
(B) Nitrogen molecular weight is variable
(C) Nitrogen equivalent weight is variable
(D) Oxygen atomic weight is variable

Q18 The percentage of hydrogen in water and hydrogen peroxide is 11.1 and 5.9 respectively. These figures illustrate
(A) Law of multiple proportions
(B) Law of conservation of mass
(C) Law of constant proportions
(D) Law of combining volumes

Q19 Which of the following pairs of compound illustrate law of multiple proportions?
(A) $KOH, CsOH$
(B) H_2O, D_2O
(C) Ethane, benzene
(D) KCl, KBr

Q20 Element X forms five stable oxides with oxygen of formula $X_2O, XO, X_2O_3, X_2O_4, X_2O_5$. The formation of these oxides explains
(A) Law of definite proportions
(B) Law of partial pressures
(C) Law of multiple proportions
(D) Law of reciprocal proportions

Q21 Among the following pairs of compounds, the one that illustrates the law of multiple proportions is
(A) NH_3 and NCl_3
(B) H_2S and SO_2
(C) CuO and Cu_2O
(D) CS_2 and $FeSO_4$

Q22 1.0 g of an oxide of A contained 0.5 g of A. 4.0 g of another oxide of A contained 1.6 g of A. The data indicate the law of:
(A) Reciprocal proportions
(B) Constant proportions
(C) Conservation of mass
(D) Multiple proportions

Q23 Two oxides of a metal contain 22.22% and 30% oxygen by mass respectively. If the formula of the first oxide is MO, then the formula of the second oxide is
(A) MO (B) MO_2
(C) M_2O_3 (D) M_2O

Q24 4.4 g of an oxide of nitrogen gives 2.24 L of nitrogen and 60 g of another oxide of nitrogen gives 22.4 L of nitrogen at S.T.P. The data illustrates:
(A) Law of conservation of mass
(B) Law of constant proportions
(C) Law of multiple proportions
(D) Law of reciprocal proportions

Answer Key

Q1	(A)
Q2	(B)
Q3	(C)
Q4	(A)
Q5	(C)
Q6	(B)
Q7	(A)
Q8	(B)
Q9	(A)
Q10	(B)
Q11	(B)
Q12	(B)
Q13	(A)
Q14	(A)
Q15	(C)
Q16	(C)
Q17	(C)
Q18	(A)
Q19	(C)
Q20	(C)
Q21	(C)
Q22	(D)
Q23	(C)
Q24	(C)