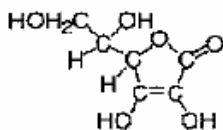


USE THE STRUCTURAL FORMULA

For ascorbic acid (vitamin C) to answer these questions.



- Q.1** What is the empirical mass of ascorbic acid-
 (A) 88 (B) 176
 (C) 44 (D) None of these
- Q.2** How many mols of 'O' are there in 36.0 g ascorbic acid-
 (A) 2.46 (B) 2.0
 (C) 1.23 (D) None of these
- Q.3** What is the percentage of 'H' in ascorbic acid-
 (A) 7% (B) 4.6%
 (C) 8% (D) None of these
- Q.4** If ascorbic acid is diprotic then how many ml of NaOH is needed for neutralisation of 36.0 g ascorbic acid if strength of NaOH is 2M-
 (A) 1230 ml (B) 123 ml
 (C) 2460 ml (D) None of these

THESE QUESTIONS ARE NOT BASED ANY PARAGRAPH:

- Q.5** A 6.32 g sample of potassium chlorate decomposes to form potassium chloride and oxygen : $\text{KClO}_3 \rightarrow \text{KCl} + \text{O}_2$
 How many moles of oxygen are formed ?
 (A) 0.127 moles (B) 0.051 moles
 (C) 0.0344 moles (D) 0.0774 moles
- Q.6** A 0.307 g sample of an unknown triprotic acid reacts completely with 36.2 mL of 0.106 M NaOH. Calculate the molecular weight of the acid-
 $\text{H}_3\text{A} + 3\text{NaOH} \rightarrow \text{Na}_3\text{A} + 3\text{H}_2\text{O}$
 (A) 247 g/mol (B) 171 g/mol
 (C) 165 g/mol (D) 151 g/mol

- Q.7** In baking powder, a mixture of cream of tartar ($\text{KHC}_4\text{H}_4\text{O}_6$, molecular weight = 188) and baking soda (NaHCO_3 , molecular weight = 84.0), the following reaction occurs at baking temperatures :
 $\text{KHC}_4\text{H}_4\text{O}_6 + \text{NaHCO}_3 \rightarrow \text{KNaC}_4\text{H}_4\text{O}_6 + \text{H}_2\text{O} + \text{CO}_2$
 (The CO_2 makes the cake "rise") A recipe calls for two level teaspoons (a total of 8.0 g) of cream of tartar. How much baking soda must be added for both materials to react completely ?
 (A) 0.45 g (B) 3.6 g
 (C) 18 g (D) 8.0 g

- Q.8** Reaction of methane with oxygen really proceeds in two steps :
 $\text{CH}_4 + (3/2)\text{O}_2 \rightarrow \text{CO} + 2\text{H}_2\text{O}$
 $\text{CO} + (1/2)\text{O}_2 \rightarrow \text{CO}_2$
 Burning a sample of CH_4 in an excess of O_2 gives 2.2 moles of H_2O . How many moles of CH_4 were in the original sample ?
 (A) 1.1 (B) 1.8
 (C) 2.2 (D) 0.60

- Q.9** How many grams of H_2O are formed when 32.0 g of H_2 is mixed with 32.0 g O_2 and allowed to react to form water ?
 (A) 18.0 g (B) 36.0 g
 (C) 64.0 g (D) 144 g

- Q.10** A 20.0 g sample of HF is dissolved in water to give a total volume of 200 mL. The concentration of the solution is-
 (A) 0.10 M (B) 1.0 M
 (C) 3.0 M (D) 5.0 M

- Q.11** Which of the following pieces of information do you need to calculate the concentration (molarity) of a salt solution ?
 I. The mass of salt used to make the solution
 II. The molar mass of the salt used to make the solution.
 III. The volume of water added to make the solution
 IV. The total volume of the solution.
 (A) I, III (B) I, II, III
 (C) II, III (D) I, II, IV

CHEMISTRY IIT JEE (CLASS TEST - 1) ANSWER KEY

Name : Roll No. :

	A	B	C	D		A	B	C	D		A	B	C	D
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					