Oxidation States

Apprentice Difficulty Level Question Group 1 Question 1

Determine the oxidation state of oxygen in the O₂ molecule.

Question 2

Determine the oxidation state of nitrogen in the N₂ molecule.

Question 3

Determine the oxidation state of hydrogen in the H₂ molecule.

Question 4

Determine the oxidation state of chlorine in the Cl₂ molecule.

Question Group 2 Question 5 Determine the oxidation state of sodium in monatomic Na.

Question 6 Determine the oxidation state of iron in monatomic Fe.

Question 7

Determine the oxidation state of copper in monatomic Cu.

Question 8

Determine the oxidation state of zinc in monatomic Zn.

Question Group 3 Question 9 Determine the oxidation state of sodium in the sodium ion, Na⁺.

Question 10 Determine the oxidation state of calcium in the calcium ion, Ca²⁺.

Question 11 Determine the oxidation state of aluminum in the aluminum ion, Al³⁺.

Question 12

Determine the oxidation state of iron in the iron(III) ion, Fe³⁺.

Question Group 4 Question 13 Determine the oxidation state of oxygen in the oxide ion, O²⁻.

Question 14

Determine the oxidation state of phosphorus in the phosphide ion, P³⁻

Question 15

Determine the oxidation state of nitrogen in the nitride ion, N³⁻

Question 16

Determine the oxidation state of sulfur in the sulfide ion, S²⁻.

Question Group 5

Question 17

Determine the oxidation states of the two elements – calcium and chlorine - in the compound $CaCl_2$.

Question 18

Determine the oxidation states of the two elements – magnesium and chlorine - in the compound MgCl₂.

Question 19

Determine the oxidation states of the two elements – magnesium and fluorine - in the compound MgF₂.

Question 20

Determine the oxidation states of the two elements – barium and chlorine - in the compound BaCl₂.

Question Group 6

Question 21

Determine the oxidation states of the two elements – sodium and oxygen - in the compound Na₂O.

Question 22

Determine the oxidation states of the two elements – potassium and oxygen - in the compound K_2O .

Question 23

Determine the oxidation states of the two elements – lithium and oxygen - in the compound Li₂O.

Question 24

Determine the oxidation states of the two elements – sodium and sulfur - in the compound Na₂S.

Master Difficulty Level Question Group 7 Question 25

Determine the oxidation states of the two elements – nitrogen and oxygen - in the compound NO₂.

Question 26

Determine the oxidation states of the two elements – carbon and oxygen - in the compound CO.

Question 27

Determine the oxidation states of the two elements – sulfur and oxygen - in the compound SO_2 .

Question 28

Determine the oxidation states of the two elements – sulfur and oxygen - in the compound SO₃.

Question Group 8

Question 29

Determine the oxidation states of the two elements – nitrogen and oxygen - in the compound N_2O_4 .

Question 30

Determine the oxidation states of the two elements – nitrogen and oxygen - in the compound N_2O_5 .

Question 31

Determine the oxidation states of the two elements – phosphorus and oxygen - in the compound P_2O_5 .

Question 32

Determine the oxidation states of the two elements – phosphorus and oxygen - in the compound P_4O_{10} .

Question Group 9

Question 33

Determine the oxidation states of the two elements – phosphorus and fluorine - in the compound PF_3 .

Question 34

Determine the oxidation states of the two elements – carbon and fluorine - in the compound CF_{4} .

Question 35

Determine the oxidation states of the two elements – sulfur and fluorine - in the compound SF₄.

Question 36

Determine the oxidation states of the two elements – sulfur and fluorine - in the compound SF_{6} .

Question Group 10

Question 37

Determine the oxidation states of the two elements – nitrogen and oxygen - in the polyatomic ion NO_2^{-1} .

Question 38

Determine the oxidation states of the two elements – nitrogen and oxygen - in the polyatomic ion NO_3^{-} .

Question 39

Determine the oxidation states of the two elements – carbon and oxygen - in the polyatomic ion $CO_3^{2^-}$.

Question 40

Determine the oxidation states of the two elements – carbon and oxygen - in the polyatomic ion $C_2O_4^{2-}$.

Question Group 11 Question 41

Determine the oxidation states of the two elements – chlorine and oxygen - in the polyatomic ion CIO_4 ⁻.

Question 42

Determine the oxidation states of the two elements – chlorine and oxygen - in the polyatomic ion CIO_3^{-1} .

Question 43

Determine the oxidation states of the two elements – bromine and oxygen - in the polyatomic ion BrO₄⁻.

Question 44

Determine the oxidation states of the two elements – bromine and oxygen - in the polyatomic ion BrO_3^{-} .

Question Group 12

Question 45

Determine the oxidation states of the two elements – sulfur and oxygen - in the polyatomic ion $SO_4^{2^-}$.

Question 46

Determine the oxidation states of the two elements – sulfur and oxygen - in the polyatomic ion $SO_3^{2^-}$.

Question 47

Determine the oxidation states of the two elements – phosphorus and oxygen - in the polyatomic ion PO_4^{3-} .

Question 48

Determine the oxidation states of the two elements – phosphorus and oxygen - in the polyatomic ion PO_3^{3-} .

Wizard Difficulty Level Question Group 13 Question 49

Identify the oxidation state of nitrogen in the following three substances: N_2 , NO_2 , and $AI(NO_3)_3$.

Question 50

Identify the oxidation state of nitrogen in the following three substances: Na_3N , NO, and $NaNO_3$.

Question 51

Identify the oxidation state of nitrogen in the following three substances: Ca_3N_2 , NO_2 , and HNO_2 .

Question Group 14

Question 52

Identify the oxidation state of sulfur in the following three substances: Na₂S, SO₂, H₂SO₄

Question 53

Identify the oxidation state of sulfur in the following three substances: H_2S , SO_3 , Na_2SO_4

Question 54

Identify the oxidation state of sulfur in the following three substances: K_2S , H_2SO_3 , H_2SO_4

Question Group 15

Question 55

Identify the oxidation state of carbon in the following three substances: CO, $H_2C_2O_4$, Na_2CO_3

Question 56

Identify the oxidation state of carbon in the following three substances: CO₂, Na₂C₂O₄, H₂CO₃

Question 57

Identify the oxidation state of carbon in the following three substances: CO, $K_2C_2O_4$, H_2CO_3

Question Group 16 Question 58

Identify the oxidation state of chlorine in the following three substances: Cl_2 , $AlCl_3$, $HClO_3$

Question 59

Identify the oxidation state of chlorine in the following three substances: Cl_2 , $BaCl_2$, $HClO_4$

Question 60

Identify the oxidation state of chlorine in the following three substances: Cl_2 , NaCl, $HClO_2$