

Quiz: Redox Reaction 1

Q1: Which of the following represents an oxidation process?

- A) Loss of electrons
- B) Gain of electrons
- C) Decrease in oxidation number
- D) Gain of hydrogen

Q2: The oxidation number of chromium in K₂Cr₂O₇ is:

- A) +3
- B) +4
- C) +6
- D) +7

Q3: Which of the following is a redox reaction?

- A) NaCl \rightarrow Na⁺ + Cl⁻
- B) AgNO₃ + NaCl \rightarrow AgCl + NaNO₃
- C) Zn + Cu²⁺ \rightarrow Zn²⁺ + Cu
- D) HCl + NaOH \rightarrow NaCl + H₂O

Q4: The oxidation number of nitrogen in NH₄⁺ is:

- A) -3
- B) -2
- C) +3
- D) +5

Q5: Which species acts as an oxidising agent?

- A) One that gets oxidised
- B) One that loses electrons
- C) One that gains electrons
- D) One that donates electrons

Q6: The oxidation number of sulphur in H₂SO₄ is:

- A) +4
- B) +5
- C) +6
- D) +2

Q7: Which of the following is NOT a redox reaction?

- A) 2Mg + O₂ \rightarrow 2MgO
- B) Cl₂ + 2KI \rightarrow 2KCl + I₂
- C) BaCl₂ + Na₂SO₄ \rightarrow BaSO₄ + 2NaCl
- D) Zn + 2HCl \rightarrow ZnCl₂ + H₂

Q8: The oxidation number of oxygen in OF₂ is:

- A) -2
- B) -1
- C) +1

D) +2

Q9: In the reaction $\text{Fe}^{2+} \rightarrow \text{Fe}^{3+} + e^-$, iron undergoes:

- A) Reduction
- B) Oxidation
- C) Disproportionation
- D) Combination

Q10: Which of the following elements can show maximum oxidation state +7?

- A) Mn
- B) Fe
- C) Co
- D) Ni

Q11: The oxidation number of chlorine in ClO_3^- is:

- A) +3
- B) +5
- C) +7
- D) +1

Q12: Which reaction represents disproportionation?

- A) $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
- B) $\text{Cl}_2 + \text{H}_2\text{O} \rightarrow \text{HCl} + \text{HOCl}$
- C) $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$
- D) $\text{Ag}^+ + \text{Cl}^- \rightarrow \text{AgCl}$

Q13: The oxidation number of iron in Fe_3O_4 is:

- A) +2
- B) +3
- C) +8/3
- D) +4

Q14: Which of the following acts as a reducing agent?

- A) KMnO_4
- B) $\text{K}_2\text{Cr}_2\text{O}_7$
- C) SO_2
- D) HNO_3

Q15: The oxidation number of phosphorus in H_3PO_3 is:

- A) +3
- B) +5
- C) +1
- D) -3

Q16: Which of the following is the strongest oxidising agent?

- A) F_2
- B) Cl_2
- C) Br_2
- D) I_2

Q17: In acidic medium, KMnO₄ is reduced to:

- A) MnO₂
- B) Mn²⁺
- C) MnO₄²⁻
- D) MnO

Q18: The oxidation number of carbon in CO is:

- A) +2
- B) +4
- C) -2
- D) 0

Q19: Which of the following is an example of oxidation but not redox?

- A) Rusting of iron
- B) Burning of Mg
- C) Loss of electrons by Na
- D) None of these

Q20: The oxidation number of nitrogen in NO₂⁻ is:

- A) +3
- B) +4
- C) +5
- D) +2

Q21: Which species undergoes reduction?

- A) One that loses electrons
- B) One that increases oxidation number
- C) One that gains electrons
- D) One that donates electrons

Q22: The oxidation number of sulphur in Na₂S₂O₃ is:

- A) +2
- B) +3
- C) +4
- D) +5

Q23: Which of the following reactions is an example of oxidation?

- A) Fe²⁺ → Fe³⁺
- B) Cl₂ → 2Cl⁻
- C) Cu²⁺ → Cu
- D) Ag⁺ → Ag

Q24: The oxidation number of iodine in HIO₃ is:

- A) +3
- B) +5
- C) +7
- D) +1

Q25: Which of the following is NOT an oxidising agent?

- A) O₃
- B) H₂O₂
- C) KMnO₄
- D) H₂

Q26: The oxidation number of chromium in Cr₂O₇²⁻ is:

- A) +3
- B) +5
- C) +6
- D) +7

Q27: Which of the following reactions involves oxidation and reduction simultaneously?

- A) Neutralisation
- B) Combination
- C) Redox
- D) Precipitation

Q28: The oxidation number of hydrogen in metal hydrides is:

- A) +1
- B) 0
- C) -1
- D) +2

Q29: Which of the following shows oxidation state zero?

- A) Na⁺
- B) Cl⁻
- C) O₂
- D) H⁺

Q30: The oxidation number of carbon in CO₂ is:

- A) +2
- B) +4
- C) -4
- D) 0

Q31: Which compound acts as both oxidising and reducing agent?

- A) H₂O₂
- B) KMnO₄
- C) K₂Cr₂O₇
- D) HNO₃

Q32: The oxidation number of chlorine in HClO is:

- A) +1
- B) +3
- C) +5
- D) +7

Q33: Which of the following is a reducing agent?

- A) Cl₂
- B) O₂
- C) Zn
- D) KMnO₄

Q34: The oxidation number of nitrogen in N₂O is:

- A) +1
- B) +2
- C) +3
- D) +4

Q35: Which of the following reactions shows reduction?

- A) Cu → Cu²⁺
- B) Fe²⁺ → Fe³⁺
- C) Cl₂ → 2Cl⁻
- D) Zn → Zn²⁺

Q36: The oxidation number of sulphur in H₂S is:

- A) +2
- B) +4
- C) 0
- D) -2

Q37: Which of the following is an oxidising agent?

- A) Zn
- B) Fe
- C) Cl₂
- D) H₂

Q38: The oxidation number of oxygen in peroxides is:

- A) -2
- B) -1
- C) 0
- D) +1

Q39: Which statement is correct?

- A) Oxidation and reduction can occur independently
- B) Reduction is loss of electrons
- C) Oxidation number increases during oxidation
- D) Reducing agent gains electrons

Q40: The oxidation number of nitrogen in NH₃ is:

- A) -3
- B) -1
- C) +1
- D) +3

Q41: Which of the following statements about oxidation number is correct?

- A) It is always an integer
- B) It can be fractional
- C) It is always positive
- D) It is same as valency

Q42: The oxidation number of sulphur in Na₂S₄O₆ is:

- A) +2.5
- B) +3
- C) +3.5
- D) +4

Q43: Which of the following species is reduced in the reaction: Cu + 2Ag⁺ -> Cu²⁺ + 2Ag ?

- A) Cu
- B) Ag⁺
- C) Cu²⁺
- D) Ag

Q44: In which of the following compounds does nitrogen show highest oxidation state?

- A) NH₃
- B) NO₂
- C) HNO₃
- D) N₂O

Q45: Which of the following reactions is a redox reaction?

- A) HCl + NaOH -> NaCl + H₂O
- B) CaCO₃ -> CaO + CO₂
- C) 2KClO₃ -> 2KCl + 3O₂
- D) AgNO₃ + NaCl -> AgCl + NaNO₃

Q46: The oxidation number of manganese in MnO₂ is:

- A) +2
- B) +3
- C) +4
- D) +7

Q47: Which of the following acts as both oxidising and reducing agent?

- A) KMnO₄
- B) H₂O₂
- C) K₂Cr₂O₇
- D) O₃

Q48: The oxidation number of chlorine in Cl₂O₇ is:

- A) +5
- B) +6
- C) +7
- D) +1

Q49: Which of the following is a reducing agent in the reaction: $\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$?

- A) Fe_2O_3
- B) Fe
- C) CO
- D) CO_2

Q50: The oxidation number of carbon in CH_3OH is:

- A) -2
- B) -1
- C) 0
- D) +1

Q51: Which element shows the maximum number of oxidation states?

- A) Fe
- B) Mn
- C) Cu
- D) Zn

Q52: The oxidation number of oxygen in superoxides is:

- A) -2
- B) -1
- C) -1/2
- D) 0

Q53: Which of the following reactions represents oxidation?

- A) $\text{Cl}_2 \rightarrow 2\text{Cl}^-$
- B) $\text{Fe}^{3+} \rightarrow \text{Fe}^{2+}$
- C) $\text{Na} \rightarrow \text{Na}^+$
- D) $\text{O}_2 \rightarrow \text{O}_2^-$

Q54: The oxidation number of phosphorus in H_3PO_4 is:

- A) +3
- B) +4
- C) +5
- D) +6

Q55: Which of the following is NOT a redox reaction?

- A) Photosynthesis
- B) Rusting of iron
- C) Neutralisation
- D) Respiration

Q56: The oxidation number of nitrogen in N_2H_4 is:

- A) -1
- B) -2
- C) +1
- D) 0

Q57: Which of the following species is oxidised in the reaction: $\text{Zn} + \text{Cu}^{2+} \rightarrow \text{Zn}^{2+} + \text{Cu}$?

- A) Zn
- B) Cu^{2+}
- C) Zn^{2+}
- D) Cu

Q58: The oxidation number of chromium in CrO_5 is:

- A) +5
- B) +6
- C) +7
- D) +8

Q59: Which of the following acts as an oxidising agent in acidic medium?

- A) MnO_4^-
- B) MnO_2
- C) Mn^{2+}
- D) MnO_{42}^-

Q60: The oxidation number of sulphur in $\text{H}_2\text{S}_2\text{O}_8$ is:

- A) +6
- B) +5
- C) +4
- D) +7

Q61: Which of the following reactions shows disproportionation?

- A) $2\text{SO}_2 + \text{O}_2 \rightarrow 2\text{SO}_3$
- B) $\text{Cl}_2 + \text{NaOH} \rightarrow \text{NaCl} + \text{NaClO} + \text{H}_2\text{O}$
- C) $\text{Zn} + \text{H}_2\text{SO}_4 \rightarrow \text{ZnSO}_4 + \text{H}_2$
- D) $\text{CaO} + \text{CO}_2 \rightarrow \text{CaCO}_3$

Q62: The oxidation number of nitrogen in NO is:

- A) +1
- B) +2
- C) +3
- D) +4

Q63: Which of the following is the strongest reducing agent?

- A) Na
- B) Mg
- C) Al
- D) Zn

Q64: The oxidation number of iodine in ICl_3 is:

- A) +1
- B) +3
- C) +5
- D) +7

Q65: Which of the following reactions represents reduction?

- A) $\text{Na} \rightarrow \text{Na}^+$
- B) $\text{Cl}_2 \rightarrow 2\text{Cl}^-$
- C) $\text{Fe}^{2+} \rightarrow \text{Fe}^{3+}$
- D) $\text{Zn} \rightarrow \text{Zn}^{2+}$

Q66: The oxidation number of oxygen in O_2F_2 is:

- A) -2
- B) -1
- C) +1
- D) +2

Q67: Which of the following is an oxidising agent?

- A) SO_2
- B) H_2S
- C) Cl_2
- D) CO

Q68: The oxidation number of carbon in HCOOH is:

- A) +2
- B) +1
- C) 0
- D) -1

Q69: Which of the following compounds contains oxygen with oxidation number -1?

- A) H_2O
- B) H_2O_2
- C) O_2
- D) CO_2

Q70: The oxidation number of nitrogen in NH_2OH is:

- A) -1
- B) 0
- C) +1
- D) +2

Q71: Which of the following is NOT an oxidising agent?

- A) KMnO_4
- B) $\text{K}_2\text{Cr}_2\text{O}_7$
- C) HNO_3
- D) HCl

Q72: The oxidation number of sulphur in SO_2 is:

- A) +2
- B) +4
- C) +6
- D) 0

Q73: Which reaction shows both oxidation and reduction?

- A) Redox reaction
- B) Neutralisation
- C) Precipitation
- D) Decomposition

Q74: The oxidation number of nitrogen in N₂ is:

- A) 0
- B) +1
- C) -1
- D) +2

Q75: Which of the following acts as a reducing agent in acidic medium?

- A) MnO₄⁻
- B) Cr₂O₇²⁻
- C) Fe²⁺
- D) Ce⁴⁺

Q76: The oxidation number of carbon in C₂O₄²⁻ is:

- A) +2
- B) +3
- C) +4
- D) +1

Q77: Which of the following reactions represents oxidation of sulphur?

- A) S → SO₂
- B) SO₂ → S
- C) H₂S → S
- D) SO₃ → SO₂

Q78: The oxidation number of iron in K₄[Fe(CN)₆] is:

- A) +2
- B) +3
- C) 0
- D) +4

Q79: Which of the following compounds acts only as an oxidising agent?

- A) H₂O₂
- B) KMnO₄
- C) SO₂
- D) H₂S

Q80: The oxidation number of copper in Cu₂O is:

- A) +1
- B) +2
- C) +3
- D) 0

Q81: The oxidation number of sulphur in Na₂S₂O₃ is:

- A) +2
- B) +3
- C) +4
- D) +5

Q82: Which of the following acts as an oxidising agent in the reaction: Sn²⁺ -> Sn⁴⁺ ?

- A) Sn²⁺
- B) Sn⁴⁺
- C) O₂
- D) None

Q83: The oxidation number of nitrogen in NH₄NO₃ is:

- A) -3 and +5
- B) -2 and +4
- C) 0 and +5
- D) -1 and +3

Q84: Which of the following is an example of disproportionation reaction?

- A) 2H₂ + O₂ -> 2H₂O
- B) Cl₂ + 2OH⁻ -> Cl⁻ + ClO⁻ + H₂O
- C) Zn + Cu²⁺ -> Zn²⁺ + Cu
- D) NaCl -> Na⁺ + Cl⁻

Q85: The oxidation number of carbon in CH₄ is:

- A) -4
- B) -2
- C) 0
- D) +4

Q86: Which of the following is the strongest oxidising agent in acidic medium?

- A) MnO₄⁻
- B) Cr₂O₇²⁻
- C) NO₃⁻
- D) ClO₄⁻

Q87: The oxidation number of chlorine in Ca(OCl)₂ is:

- A) -1
- B) +1
- C) +3
- D) +5

Q88: Which of the following species undergoes oxidation?

- A) Cl₂ -> 2Cl⁻
- B) Fe³⁺ -> Fe²⁺
- C) Zn -> Zn²⁺
- D) O₂ -> O₂⁻

Q89: The oxidation number of oxygen in KO₂ is:

- A) -2
- B) -1
- C) -1/2
- D) 0

Q90: Which of the following reactions shows reduction?

- A) Na → Na⁺
- B) Fe²⁺ → Fe³⁺
- C) Cu²⁺ → Cu
- D) Zn → Zn²⁺

Q91: The oxidation number of sulphur in H₂SO₃ is:

- A) +2
- B) +4
- C) +6
- D) 0

Q92: Which element shows oxidation state zero in combined form?

- A) O in O₂
- B) N in N₂
- C) C in CO
- D) S in S₈

Q93: The oxidation number of nitrogen in NO₃⁻ is:

- A) +3
- B) +4
- C) +5
- D) +6

Q94: Which of the following is a reducing agent?

- A) KMnO₄
- B) K₂Cr₂O₇
- C) H₂S
- D) HNO₃

Q95: The oxidation number of iron in FeO is:

- A) +1
- B) +2
- C) +3
- D) 0

Q96: Which of the following reactions is NOT redox?

- A) Zn + H₂SO₄ → ZnSO₄ + H₂
- B) 2Na + Cl₂ → 2NaCl
- C) AgNO₃ + NaCl → AgCl + NaNO₃
- D) 2Mg + O₂ → 2MgO

Q97: The oxidation number of chromium in K₂CrO₄ is:

- A) +3
- B) +4
- C) +5
- D) +6

Q98: Which species is oxidised in the reaction: 2Fe²⁺ + H₂O₂ -> 2Fe³⁺ + 2OH⁻ ?

- A) Fe²⁺
- B) Fe³⁺
- C) H₂O₂
- D) OH⁻

Q99: The oxidation number of carbon in CCl₄ is:

- A) +4
- B) +2
- C) 0
- D) -4

Q100: Which of the following shows both oxidation and reduction?

- A) Neutralisation
- B) Redox reaction
- C) Precipitation
- D) Combination

Q101: The oxidation number of nitrogen in N₂O₅ is:

- A) +3
- B) +4
- C) +5
- D) +6

Q102: Which of the following is the strongest reducing agent?

- A) Li
- B) Na
- C) K
- D) Rb

Q103: The oxidation number of oxygen in H₂O₂ is:

- A) -2
- B) -1
- C) 0
- D) +1

Q104: Which reaction represents oxidation of iron?

- A) Fe²⁺ -> Fe³⁺
- B) Fe³⁺ -> Fe²⁺
- C) Fe -> Fe
- D) FeO -> Fe

Q105: The oxidation number of sulphur in SO₃ is:

- A) +4
- B) +5
- C) +6
- D) +2

Q106: Which of the following acts only as a reducing agent?

- A) H₂
- B) H₂O₂
- C) KMnO₄
- D) O₃

Q107: The oxidation number of nitrogen in N₂H₄ is:

- A) -1
- B) -2
- C) 0
- D) +1

Q108: Which of the following reactions shows oxidation of sulphur?

- A) H₂S → S
- B) S → SO₂
- C) SO₂ → S
- D) SO₃ → SO₂

Q109: The oxidation number of copper in CuSO₄ is:

- A) +1
- B) +2
- C) +3
- D) 0

Q110: Which of the following is an oxidising agent?

- A) CO
- B) SO₂
- C) Cl₂
- D) H₂S

Q111: The oxidation number of phosphorus in PCl₅ is:

- A) +3
- B) +4
- C) +5
- D) -3

Q112: Which of the following reactions involves electron transfer?

- A) Redox
- B) Neutralisation
- C) Hydrolysis
- D) Precipitation

Q113: The oxidation number of carbon in CO₃²⁻ is:

- A) +2
- B) +3
- C) +4
- D) +6

Q114: Which species is reduced in the reaction: MnO₄⁻ -> Mn²⁺ ?

- A) Mn
- B) O
- C) MnO₄⁻
- D) Mn²⁺

Q115: The oxidation number of sulphur in Na₂S is:

- A) -2
- B) 0
- C) +2
- D) +4

Q116: Which of the following acts as reducing agent in respiration?

- A) O₂
- B) Glucose
- C) CO₂
- D) H₂O

Q117: The oxidation number of nitrogen in NO₂ is:

- A) +2
- B) +3
- C) +4
- D) +5

Q118: Which of the following compounds contains oxygen in -1 oxidation state?

- A) H₂O
- B) H₂O₂
- C) KO₂
- D) O₂

Q119: The oxidation number of iron in Fe₂O₃ is:

- A) +2
- B) +3
- C) +4
- D) +6

Q120: Which statement is correct for a redox reaction?

- A) Oxidation and reduction occur separately
- B) Electrons are neither lost nor gained
- C) Oxidation and reduction occur together
- D) Only oxidation occurs

Q121: The oxidation number of chromium in K₂Cr₂O₇ is:

- A) +3
- B) +4
- C) +6
- D) +7

Q122: Which of the following acts as a reducing agent in the reaction: 2Fe³⁺ + Sn²⁺ -> 2Fe²⁺ + Sn⁴⁺ ?

- A) Fe³⁺
- B) Fe²⁺
- C) Sn²⁺
- D) Sn⁴⁺

Q123: The oxidation number of nitrogen in NH₂OH is:

- A) -3
- B) -2
- C) -1
- D) +1

Q124: Which of the following is an oxidising agent in the reaction: Cl₂ + 2Br⁻ -> 2Cl⁻ + Br₂ ?

- A) Br⁻
- B) Br₂
- C) Cl⁻
- D) Cl₂

Q125: The oxidation number of sulphur in H₂S₂O₃ is:

- A) +2
- B) +3
- C) +4
- D) +5

Q126: Which of the following reactions is a redox reaction?

- A) NaCl -> Na⁺ + Cl⁻
- B) AgNO₃ + NaCl -> AgCl + NaNO₃
- C) 2KClO₃ -> 2KCl + 3O₂
- D) HCl + NaOH -> NaCl + H₂O

Q127: The oxidation number of carbon in CH₃COOH is:

- A) 0
- B) +1
- C) +2
- D) +3

Q128: Which of the following species undergoes reduction?

- A) Zn -> Zn²⁺
- B) Fe²⁺ -> Fe³⁺
- C) Cu²⁺ -> Cu
- D) Na -> Na⁺

Q129: The oxidation number of manganese in MnO₄⁻ is:

- A) +4
- B) +5
- C) +6
- D) +7

Q130: Which compound acts only as an oxidising agent?

- A) H₂O₂
- B) KMnO₄
- C) SO₂
- D) H₂S

Q131: The oxidation number of oxygen in O₃ is:

- A) -2
- B) -1
- C) 0
- D) +1

Q132: Which of the following reactions represents disproportionation?

- A) 2H₂ + O₂ → 2H₂O
- B) Cl₂ + 2OH⁻ → Cl⁻ + ClO⁻ + H₂O
- C) Zn + CuSO₄ → ZnSO₄ + Cu
- D) CaO + CO₂ → CaCO₃

Q133: The oxidation number of iron in Fe₃O₄ is:

- A) +2
- B) +3
- C) +8/3
- D) +4

Q134: Which of the following is the strongest oxidising agent?

- A) F₂
- B) Cl₂
- C) Br₂
- D) I₂

Q135: The oxidation number of nitrogen in NO is:

- A) +1
- B) +2
- C) +3
- D) +4

Q136: Which of the following acts as a reducing agent in photosynthesis?

- A) O₂
- B) CO₂
- C) H₂O
- D) Glucose

Q137: The oxidation number of sulphur in SO₄²⁻ is:

- A) +4
- B) +5
- C) +6
- D) +7

Q138: Which species is oxidised in the reaction: 2I⁻ + H₂O₂ -> I₂ + 2OH⁻ ?

- A) I⁻
- B) I₂
- C) H₂O₂
- D) OH⁻

Q139: The oxidation number of phosphorus in P₄O₁₀ is:

- A) +3
- B) +4
- C) +5
- D) +6

Q140: Which of the following is NOT an oxidising agent?

- A) O₃
- B) KMnO₄
- C) K₂Cr₂O₇
- D) CO

Q141: The oxidation number of copper in CuCl₂ is:

- A) +1
- B) +2
- C) +3
- D) 0

Q142: Which reaction shows reduction of nitrogen?

- A) NH₃ -> NO
- B) NO₃⁻ -> NO
- C) NO -> NO₂
- D) N₂ -> NO

Q143: The oxidation number of carbon in CO is:

- A) +2
- B) +4
- C) -2
- D) 0

Q144: Which of the following elements shows variable oxidation states?

- A) Na
- B) Mg
- C) Al
- D) Fe

Q145: The oxidation number of oxygen in Na₂O₂ is:

- A) -2
- B) -1
- C) 0
- D) +1

Q146: Which of the following is an example of redox reaction?

- A) AgCl → Ag⁺ + Cl⁻
- B) CaCO₃ → CaO + CO₂
- C) Zn + 2HCl → ZnCl₂ + H₂
- D) NaCl + KNO₃ → NaNO₃ + KCl

Q147: The oxidation number of nitrogen in N₂H₄ is:

- A) -1
- B) -2
- C) 0
- D) +1

Q148: Which of the following acts as oxidising agent in acidic medium?

- A) MnO₄⁻
- B) MnO₂
- C) Mn²⁺
- D) MnO₄²⁻

Q149: The oxidation number of chlorine in ClO₄⁻ is:

- A) +3
- B) +5
- C) +7
- D) +1

Q150: Which of the following is the strongest reducing agent in aqueous solution?

- A) Li
- B) Na
- C) K
- D) Cs

Q151: The oxidation number of sulphur in Na₂SO₃ is:

- A) +2
- B) +4
- C) +6
- D) +3

Q152: Which species undergoes oxidation in the reaction: 2Fe²⁺ + Cl₂ → 2Fe³⁺ + 2Cl⁻ ?

- A) Fe²⁺
- B) Fe³⁺
- C) Cl₂
- D) Cl⁻

Q153: The oxidation number of carbon in C₆H₆ is:

- A) -1
- B) 0
- C) +1
- D) -2

Q154: Which of the following compounds contains oxygen with oxidation number +2?

- A) OF₂
- B) H₂O
- C) H₂O₂
- D) KO₂

Q155: The oxidation number of nitrogen in NO₂⁻ is:

- A) +2
- B) +3
- C) +4
- D) +5

Q156: Which of the following reactions shows oxidation?

- A) Cl₂ → 2Cl⁻
- B) Fe³⁺ → Fe²⁺
- C) Na → Na⁺
- D) Cu²⁺ → Cu

Q157: The oxidation number of sulphur in H₂S is:

- A) +2
- B) +4
- C) 0
- D) -2

Q158: Which of the following acts as a reducing agent?

- A) KMnO₄
- B) K₂Cr₂O₇
- C) SO₂
- D) HNO₃

Q159: The oxidation number of iron in Fe(CN)₆⁴⁻ is:

- A) +1
- B) +2
- C) +3
- D) +4

Q160: Which statement is correct regarding redox reactions?

- A) Oxidation can occur without reduction
- B) Reduction can occur without oxidation
- C) Oxidation and reduction occur simultaneously
- D) Only electrons are transferred

Q161: The oxidation number of manganese in Mn₂O₃ is:

- A) +2
- B) +3
- C) +4
- D) +6

Q162: Which of the following acts as an oxidising agent in the reaction: Fe + Cu²⁺ → Fe²⁺ + Cu ?

- A) Fe
- B) Fe²⁺
- C) Cu
- D) Cu²⁺

Q163: The oxidation number of nitrogen in NH₄⁺ is:

- A) -3
- B) -2
- C) +3
- D) +5

Q164: Which of the following reactions shows oxidation of carbon?

- A) CO → CO₂
- B) CO₂ → CO
- C) CH₄ → C
- D) CO₂ → C

Q165: The oxidation number of chlorine in Cl₂O is:

- A) +1
- B) +2
- C) +3
- D) +5

Q166: Which species is reduced in the reaction: NO₃⁻ → NO ?

- A) N
- B) O
- C) NO₃⁻
- D) NO

Q167: The oxidation number of sulphur in Na₂S₂O₄ is:

- A) +2
- B) +3
- C) +4
- D) +5

Q168: Which of the following is the strongest oxidising agent in basic medium?

- A) MnO₄⁻
- B) CrO₄²⁻
- C) ClO⁻
- D) NO₃⁻

Q169: The oxidation number of carbon in HCHO is:

- A) -2
- B) -1
- C) 0
- D) +1

Q170: Which of the following reactions shows disproportionation?

- A) $2\text{Cu}^+ \rightarrow \text{Cu}^{2+} + \text{Cu}$
- B) $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$
- C) $2\text{SO}_2 + \text{O}_2 \rightarrow 2\text{SO}_3$
- D) $\text{CaO} + \text{CO}_2 \rightarrow \text{CaCO}_3$

Q171: The oxidation number of iron in FeO is:

- A) +1
- B) +2
- C) +3
- D) +4

Q172: Which of the following acts as a reducing agent in the reaction: $\text{MnO}_4^- \rightarrow \text{Mn}^{2+}$?

- A) MnO_4^-
- B) Mn^{2+}
- C) Fe^{2+}
- D) H^+

Q173: The oxidation number of iodine in IO_3^- is:

- A) +3
- B) +5
- C) +7
- D) +1

Q174: Which of the following is NOT a redox reaction?

- A) Photosynthesis
- B) Respiration
- C) Neutralisation
- D) Rusting

Q175: The oxidation number of sulphur in H_2SO_4 is:

- A) +4
- B) +5
- C) +6
- D) +2

Q176: Which species is oxidised in the reaction: $2\text{Cl}^- \rightarrow \text{Cl}_2 + 2\text{e}^-$?

- A) Cl^-
- B) Cl_2
- C) e^-
- D) None

Q177: The oxidation number of nitrogen in N₂O₃ is:

- A) +2
- B) +3
- C) +4
- D) +5

Q178: Which of the following is a reducing agent?

- A) KMnO₄
- B) K₂Cr₂O₇
- C) H₂
- D) O₃

Q179: The oxidation number of oxygen in Na₂O₂ is:

- A) -2
- B) -1
- C) 0
- D) +1

Q180: Which of the following elements commonly shows variable oxidation states?

- A) Na
- B) Mg
- C) Al
- D) Mn

Q181: The oxidation number of carbon in C₂H₆ is:

- A) -3
- B) -2
- C) -1
- D) 0

Q182: Which reaction shows reduction of oxygen?

- A) O₂ → O₂⁻
- B) O₂⁻ → O₂
- C) O₂ → O₃
- D) O → O₂

Q183: The oxidation number of phosphorus in PH₃ is:

- A) -3
- B) -2
- C) +3
- D) +5

Q184: Which of the following acts as an oxidising agent?

- A) SO₂
- B) H₂S
- C) Cl₂
- D) CO

Q185: The oxidation number of nitrogen in NO₂ is:

- A) +2
- B) +3
- C) +4
- D) +5

Q186: Which of the following reactions is an example of redox?

- A) AgCl -> Ag⁺ + Cl⁻
- B) NaCl + KNO₃ -> NaNO₃ + KCl
- C) 2Mg + O₂ -> 2MgO
- D) CaCO₃ -> CaO + CO₂

Q187: The oxidation number of copper in Cu₂O is:

- A) +1
- B) +2
- C) +3
- D) 0

Q188: Which species undergoes reduction in the reaction: Fe³⁺ + e⁻ -> Fe²⁺ ?

- A) Fe³⁺
- B) Fe²⁺
- C) e⁻
- D) None

Q189: The oxidation number of sulphur in SO₂ is:

- A) +2
- B) +4
- C) +6
- D) 0

Q190: Which statement is correct about redox reactions?

- A) Only oxidation occurs
- B) Only reduction occurs
- C) Oxidation and reduction occur together
- D) No electron transfer occurs