

CHEMISTRY

Redox Reactions

21. Match list-I (compound) with list-II (oxidation state of N) and select the correct answer using the codes given below the list

List-I		List-II	
(A)	KNO ₃	(a)	$-\frac{1}{3}$
(B)	HNO ₂	(b)	-3
(C)	NH ₄ Cl	(c)	0
(D)	NaN ₃	(d)	+3
		(e)	+5

Codes are

	A	B	C	D
(1)	(e)	(d)	(b)	(a)
(2)	(e)	(b)	(d)	(a)
(3)	(d)	(e)	(a)	(c)
(4)	(b)	(c)	(d)	(e)

22. In the conversion of Br₂ to BrO₃⁻ the oxidation state of bromine changes from
- (1) 0 to 5 (2) 1 to 5
 (3) 0 to -3 (4) 2 to 5
23. Oxidation number of N in N₃H (hydrazoic acid) is
- (1) $-\frac{1}{3}$ (2) -3
 (3) +3 (4) $+\frac{2}{3}$
24. The oxidation number of iron in potassium ferricyanide K₃[Fe(CN)₆] is
- (1) Two (2) Six
 (3) Three (4) Four
25. The oxidation number of phosphorous in PH₄⁺, PO₂³⁻, PO₄³⁻ and PO₃³⁻ are respectively
- (1) -3, +1, +3, +5
 (2) -3, +3, +5, -1
 (3) +3, -3, +5, -1
 (4) -3, +1, +5, +3

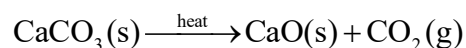
26. In the following change, 3Fe + 4H₂O → Fe₃O₄ + 4H₂. If the atomic weight of iron is 56, then its equivalent weight will be
- (1) 42 (2) 21
 (3) 63 (4) 84

Types of Redox Reactions, Balancing of Redox Reactions

27. Match the columns

Column I	Column II
(A) V ₂ O ₅ (s) + 5Ca(s) → 2V(s) + 5CaO(s)	(p) Disproportionation reaction
(B) CH ₄ (g) + 2O ₂ (g) $\xrightarrow{\text{heat}}$ CO ₂ (g) + 2H ₂ O(l)	(q) Decomposition reaction
(C) P ₄ (s) + 3OH ⁻ (aq) + 3H ₂ O(l) → PH ₃ (g) + 3H ₂ PO ₂ ⁻ (aq)	(r) Combination reaction
(D) 2KClO ₃ (s) $\xrightarrow{\text{heat}}$ 2KCl(s) + 3O ₂ (g)	(s) Displacement reaction
(1) A-(s), B-(q), C-(r), D-(p)	
(2) A-(s), B-(r), C-(p), D-(q)	
(3) A-(r), B-(s), C-(q), D-(p)	
(4) A-(r), B-(s), C-(p), D-(q)	

28. **Assertion:** The reaction

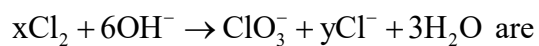


is an example of decomposition reaction

Reason: Above reaction is not a redox reaction.

- (1) Assertion is correct, reason is correct, reason is a correct explanation for assertion
 (2) Assertion is correct, reason is correct, reason is not a correct explanation for assertion
 (3) Assertion is correct, reason is incorrect
 (4) Assertion is incorrect, reason is correct

29. The values of x and y in the following redox reaction



- (1) $x = 5, y = 3$ (2) $x = 2, y = 4$
(3) $x = 3, y = 5$ (4) $x = 4, y = 2$

30. The largest oxidation number exhibited by an element depends on its outer electronic configuration. With which of the following outer electronic configurations the element will exhibit largest oxidation number?

- (1) $3d^14s^2$ (2) $3d^24s^2$
(3) $3d^54s^1$ (4) $3d^54s^2$



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