



## DPP-2 SOLUTIONS (OXIDISING & REDUCING AGENTS)

### Chapter: Redox Reactions

*“Concept clear hoga toh question khud solve ho jaata hai.”*

Q1. **A reducing agent is a substance which can:**

Golden rule yaad rakho: **Jo electron deta hai = reducing agent**

Reducing agent:

- Electron lose karta hai
- Khud oxidised hota hai

Isliye reducing agent hamesha **electron donor** hota hai.

**Correct Option: (2)**

Q2. **If an element is in its lowest oxidation state, it can act as:**

Lowest oxidation state = oxidation number sabse zyada negative.

Lowest O.S. par element ke paas pehle se hi extra electrons hote hain.

- Electron **lose** kar sakta hai
- Electron **gain** nahi kar sakta

Electron lose karna = oxidation reducing agent.

**Correct Option: (1)**

Q3. **In the course of a chemical reaction an oxidant –**

Oxidant = electron acceptor.

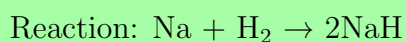
Oxidising agent:

- Electron gain karta hai
- Khud reduce hota hai

**Correct Option: (2)**

Q4. **When  $H_2$  reacts with Na, it acts as:**

Hydrogen ka role compound par depend karta hai.



Hydrogen:

$$0 \rightarrow -1$$

Oxidation number decrease hydrogen reduced oxidising agent.

Correct Option: (1)

Q5. In  $\text{Zn} + \text{I}_2 \rightarrow \text{ZnI}_2$ , what is oxidised?

Oxidation = oxidation number increase.

Zn:

$$0 \rightarrow +2 \text{ (oxidation)}$$

I:

$$0 \rightarrow -1 \text{ (reduction)}$$

Correct Option: (3)

Q6.  $\text{H}_2\text{S} + \text{H}_2\text{O}_2 \rightarrow \text{S} + 2\text{H}_2\text{O}$  manifests:

Sulphur ka oxidation number check karo.

S:

$$-2 \rightarrow 0$$

Oxidation  $\text{H}_2\text{O}_2$  oxidising agent.

Correct Option: (1)

Q7.  $\text{H}_2\text{O} \text{ (steam)} + \text{C} \rightarrow \text{CO} + \text{H}_2$

Carbon aur hydrogen dono ka O.S. dekho.

C:

$$0 \rightarrow +2 \text{ (oxidation)}$$

H (in  $\text{H}_2\text{O}$ ):

$$+1 \rightarrow 0 \text{ (reduction)}$$

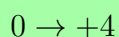
Water oxidising agent hai.

Correct Option: (2)

Q8.  $\text{C} + 4\text{HNO}_3 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O} + 4\text{NO}_2$

Conc.  $\text{HNO}_3$  strong oxidising agent hota hai.

Carbon:

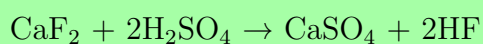


Carbon oxidised  $\text{HNO}_3$  oxidising agent.

**Correct Option: (1)**

**Q9. Which reaction does NOT show oxidising behaviour of conc.  $\text{H}_2\text{SO}_4$ ?**

Sirf acid-base reaction identify karo.

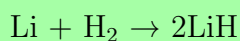


Koi oxidation number change nahi no redox.

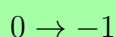
**Correct Option: (2)**

**Q10. Hydrogen acts as oxidising agent in:**

Hydride formation yaad rakho.



H:



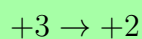
Hydrogen reduced oxidising agent.

**Correct Option: (2)**

**Q11.  $2\text{FeCl}_3 + \text{H}_2\text{S} \rightarrow 2\text{FeCl}_2 + 2\text{HCl} + \text{S}$**

Iron ka oxidation number dekho.

Fe:



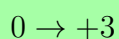
Reduction  $\text{FeCl}_3$  oxidising agent.

**Correct Option: (1)**

**Q12. Reducing agent in  $\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$**

Jo oxidised hota hai, wahi reducing agent.

Al:



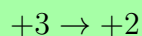
Oxidation reducing agent.

Correct Option: (2)

Q13. Oxidant in  $2\text{FeCl}_3 + \text{H}_2 \rightarrow 2\text{FeCl}_2 + 2\text{HCl}$

Oxidant hamesha reduced hota hai.

Fe:



Reduction oxidant.

Correct Option: (2)

Q14. Compound acting as both oxidising and reducing agent

Dual behaviour ka best example yaad rakho.

$\text{H}_2\text{O}_2$ :

- Kabhi oxidised ( $\text{O}_2$  banata hai)
- Kabhi reduced ( $\text{H}_2\text{O}$  banata hai)

Correct Option: (2)

Q15. Correct statement regarding reactions (A) and (B) of  $\text{H}_2\text{O}_2$

Dono reactions alag analyse karo.

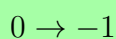
(A) me  $\text{H}_2\text{O}_2$  oxidant, (B) me  $\text{H}_2\text{O}_2$  reductant.

Correct Option: (2)

Q16.  $\text{H}_2\text{O}_2$  acts as reducing agent in:

Reducing agent = oxidised.

$\text{Cl}_2$ :



Chlorine reduced  $\text{H}_2\text{O}_2$  oxidised reducing agent.

Correct Option: (2)

Q17. Role of  $\text{H}_2\text{O}_2$  in reactions with  $\text{O}_3$  and  $\text{Ag}_2\text{O}$

Ozone very strong oxidant hota hai.

(a)  $\text{H}_2\text{O}_2$  reducing agent (b)  $\text{H}_2\text{O}_2$  oxidising agent

Correct Option: (2)

Q18.  $\text{H}_2\text{O}_2$  acts as reducing agent (electrochemical)

Electron loss identify karo.

$\text{H}_2\text{O}_2 \rightarrow \text{O}_2$  Oxidation reducing agent.

Correct Option: (4)

Q19. Which acts as both oxidant and reductant

Disproportionation possible hona chahiye.

$\text{H}_2\text{O}_2$  disproportionation reactions dikhata hai.

Correct Option: (3)

Q20. Oxidation numbers  $A = +2$ ,  $B = +5$ ,  $C = 2$ . Possible formula is:

Total oxidation number zero hona chahiye.

Sirf  $\text{A}_3(\text{BC}_4)_2$  me total charge zero hota hai.

Correct Option: (2)

Q21.  $\text{H}_2\text{O} + \text{Br}_2 \rightarrow \text{HOBr} + \text{HBr}$

Disproportionation identify karo.

Br:

$0 \rightarrow +1$  and  $0 \rightarrow -1$

Same element oxidised + reduced.

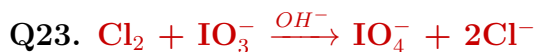
Correct Option: (1)

Q22.  $2\text{Br}_2 + 6\text{CO}_3^{2-} + 3\text{H}_2\text{O} \rightarrow 5\text{Br}^- + \text{BrO}_3^- + 6\text{HCO}_3^-$

Bromine ke products dekho.

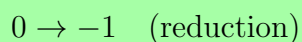
$\text{Br}_2 \rightarrow \text{Br}^-$  (reduction)  $\text{Br}_2 \rightarrow \text{BrO}_3^-$  (oxidation)  
Disproportionation.

Correct Option: (4)



Oxidant = reduced species.

$\text{Cl}_2$ :



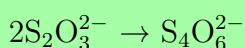
$\text{IO}_3^-$ :



Correct Option: (2)

Q24. Which change requires an oxidising agent?

Oxidation = oxidation number increase.



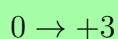
Sulphur oxidised oxidising agent required.

Correct Option: (1)

Q25.  $8\text{Al} + 3\text{Fe}_3\text{O}_4 \rightarrow 4\text{Al}_2\text{O}_3 + 9\text{Fe}$ . Electrons transferred = ?

Al oxidation number use karo.

Al:



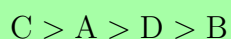
Total electrons =  $8 \times 3 = 24$

Correct Option: (4)

Q26. Order of decreasing reducing power of A, B, C, D

Strong reducing agent easily oxidised hota hai.

Given reactions se order milta hai:



Correct Option: (4)