



CHEMISTRY

JEE MAIN AND ADVANCED

MOCK TEST 14

Exercise

1. When ClO_3^- , changes to Cl^-

- A. It gains six electrons
- B. It gains four electrons
- C. It loses six electrons
- D. It gains three electrons

Answer: A

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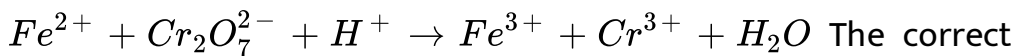
2. A reducing agent is a substance which can

- A. Accept electron
- B. Donate electron
- C. Reduce itself
- D. Oxidises another species

Answer: B

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3. For the redox reaction:

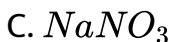


The correct coefficients of the reactants for the balanced reaction are



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4. Which among the following will not act as a reducing agent?

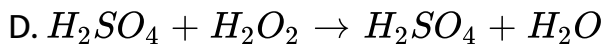
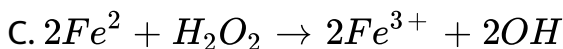
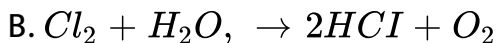
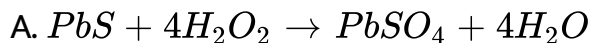


Answer: C



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5. in which of the following reactions, H_2O_2 is acting as a reducing agent?

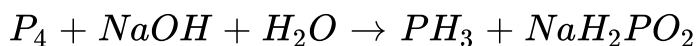


Answer: B



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6. In the given reaction:



A. P is reduced only

B. P undergoes disproportionation reaction

C. P is oxidised only

D. O is reduced

Answer: B



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7. In the conversion of $I_2 \rightarrow IO_3^-$ the oxidation state of iodine changes from

A. 0 to +6

B. 0 to +5

C. 0 to -1

D. 0 to -3

Answer: B

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8. The oxidation state of Mn in MnO_4^{2-} is

A. +8

B. +6

C. +7

D. +5

Answer: B

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9. The oxidation state of phosphorous in various compounds vary between

A. (-3) to +5

B. (-1) to +3

C. (-3) to +3

D. (-5) to +5

Answer: A



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10. The average oxidation state of sulphur atom in $S_4O_6^{2-}$ ion is

A. +2

B. +5

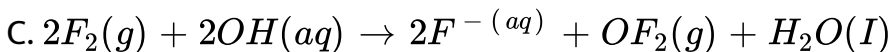
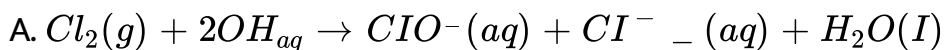
C. 0

D. +2.5

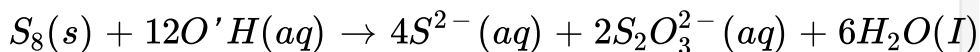
Answer: D

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11. Which is not an example of disproportionation reaction?

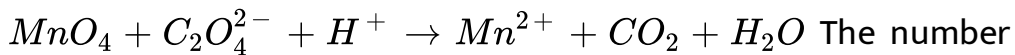


D.



Answer: C

12. For the redox reaction:



The number of mole of permanganate ion required per mole of oxalate ion for completion of the reaction is

A. $\frac{1}{5}$

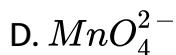
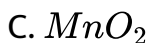
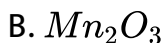
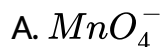
B. $\frac{2}{5}$

C. $\frac{5}{2}$

D. $\frac{3}{5}$

Answer: B

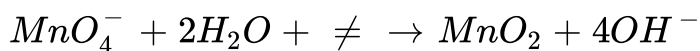
13. The equivalent weight of $MnCl_2$, is half of its molecular weight when it is converted to



Answer: C

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14. The value of n in the following half equation is



A. 3

B. 5

C. 4

D. 6

Answer: A



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15. The oxidation state of Cr in CrO_5 is:

A. +4

B. +6

C. +8

D. +10

Answer: B

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16. For the galvanic cell:

$Zn(s) | Zn^{2+}(aq)(1.0M) || Ni^{2+}(aq)(1.0M) | Ni(s)$, E_{cell}° will be

[Given $E_{\frac{Zn^{2+}}{Zn}}^{\circ} = -0.76V$, $E_{\frac{Ni^{2+}}{Ni}}^{\circ} = -0.25V$]

A. $-0.51V$

B. $-1.01V$

C. $0.51V$

D. $1.01V$

Answer: C

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17. Which of the following metals will not react dilute hydrochloric acid?

A. Cu

B. Zn

C. Fe

D. Ca

Answer: A

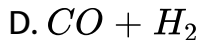
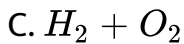


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18. Syngas is a mixture of

A. $CO_2 + H_2$

B. $CO_2 + N_2$

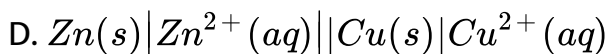
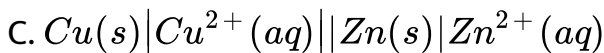
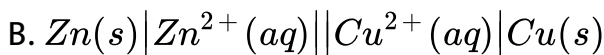
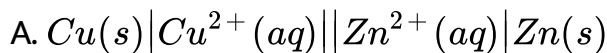


Answer: D



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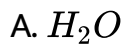
19. $Zn(s) + Cu^{2+}(aq) \rightarrow Zn^{2+}(aq) + Cu(s)$ The cell representation for the above redox reaction is



Answer: B



20. In which of the compounds the oxidation state of hydrogen is -1?



Answer: B

21. In iodometric titration which indicator is used to detect end point of titration reaction?

A. Diphenylamine

B. Starch

C. MnO_4^\ominus

D. Methyl orange

Answer: B

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22. If a small Cu rod is placed in an aqueous solution of ferrous salt, then which of the following will be observed? (

$$E_{\frac{Cu^{2+}}{Cu}}^0 = -0.34V, E_{\frac{Fe^{2+}}{Fe}}^0 = -0.44V)$$

A. Copper will be oxidised

B. Fe^{2+} will be reduced

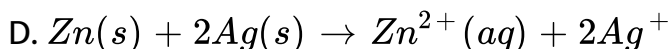
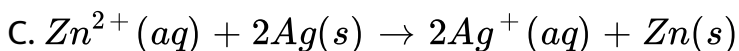
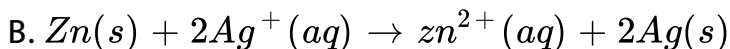
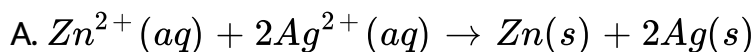
C. No reaction will take place

D. Fe^{2+} will be oxidised

Answer: C

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23. The standard reduction potential of zinc and silver at 298 K are $(\forall K_M CP_{14} - N \exists T_C H E_E 14_{023} - Q01)$ Which of the following reactions actually takes place in a cell reaction?



Answer: B

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24. Four metals A, B, C and D are having standard reduction potential as -3.06 , -1.66 , -0.40 and 0.80 volt respectively. The most reactive metal is

A. D

B. A

C. C

D. B

Answer: B



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25. In faintly alkaline solution, 4 moles of permanganate anion quantitatively oxidize thiosulphate anions to produce X moles of sulphate anion. The value of X

A. 8

B. 6

C. 4

D. 3

Answer: D



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