



## CHEMISTRY

### AAKASH INSTITUTE ENGLISH

#### Mock test 19

#### Example

1. Number of Faraday's required to generate one gram atom of calcium from molten  $CaCl_2$  is

A. 1

B. 2

C. 3

D. 4

**Answer: B**



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2. For the production of X L  $H_2$  at STP at cathode, cost of electricity is x then cost of production of X L  $O_2$  at STP at anode from water will be

A. x

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

C. 2x

D. 4x

**Answer: C**



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3. When one coulomb of electricity is passed through an electrolytic solution, the mass of the element deposited on the electrode is equal to

- A. Molecular weight
- B. equivalent weight
- C. one gram
- D. Electrochemical equivalent

**Answer: D**



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4. When an aqueous solution of  $AgNO_3$  is electrolysed between platinum electrodes, the substances liberated at anode and cathode are

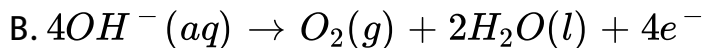
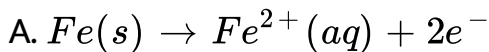
- A. Cu at anode and Ag at cathode
- B.  $O_2$  at anode and Cu at cathode
- C.  $O_2$  at anode and Ag at cathode
- D.  $NO_2$  at anode and Ag at cathode

**Answer: C**

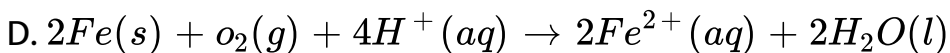
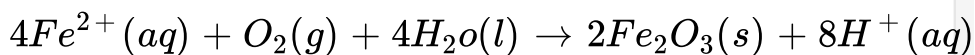


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5. Which of the following reaction is not involved in corrosion of iron?



C.



**Answer: B**



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6. During electrolysis of  $H_2SO_4(aq)$  with high charge density,

$H_2S_2O_8$  is formed as by product. In such electrolysis 44.8

L  $H_2(g)$  and 15 L  $O_2(g)$  liberated at STP. Hence, the moles of

$H_2S_2O_8$  formed is approximately equal to

A. 0.25

B. 0.66

C. 2

D. 2.68

**Answer: B**



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7. When a lead storage battery is discharged then incorrect option s) is/are

A. only 1

B. only 1 & 2

C. 1, 2, & 3

D. Only 4

**Answer: C**

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8. Three moles of electrons are passed through three solutions in succession containing  $AgNO_3$ ,  $CuSO_4$  and  $AuCl_3$  respectively the molar ratio of amounts of cations reduced at cathode will be

A. 1 : 2 : 3

B. 3 : 2 : 1

C. 2 : 1 : 3

D. 6 : 3 : 2

**Answer: D**



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9. The Zn acts as sacrificial or cathodic protection to prevent rusting of iron because

A.  $E_{(op)}$  of Zn =  $E_{(op)}$  of Fe`

B.  $E_{op}$  of Zn >  $E_{op}$  of Fe

C.  $E_{op}$  of Zn <  $E_{op}$  of Fe

D. Zn dose mot react with water

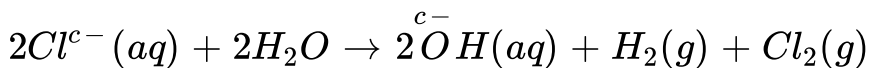
**Answer: B**



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10. An aqueous solution of  $NaCl$  on electrolysis gives  $H_2(g)$ ,  $Cl_2(g)$ , and  $NaOH$  according to the reaction :



A direct current of  $25A$  with a current efficiency of  $62\%$  is passed through  $20L$  of  $NaCl$  solution ( $20\%$  by weight).

Write down the reactions taking place at the anode and cathode. How long will it take to produce  $1kg$  of  $Cl_2$ ? ( Assume no loss due to evaporation . )

A. 48.71 hr, 1041M

B. 2880 min, 1041M

C. 17.54 hr, 2M

D. 170.54 min, 2M

**Answer: A**



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11. When an electric current is passed through a cell having an electrolyte, then the cations and anions move to their respective electrodes if the cathode is pulled out of the solution then

A. Both cations and anions will move towards anode

B. cations will start moving towards anode while anions will stop moving

C. Anions will continue to move towards anode while cations will stop moving

D. Both cations and anions will starts moving randomly

**Answer: D**



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**12.** Which of the following given batteries are rechargeable?

1. Dry-cell battery

2. Nickel-cadmium battery

3. Lithium battery

4. Fuel cell

5. Lead storage battery

A. 1, 2 & 4

B. 2, 3 & 5

C. 1, 2, 4 & 5

D. 2, 4 & 5

**Answer: B**



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13. Define Fuel cell



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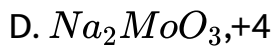
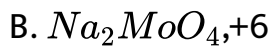
14. A first order reaction is found to have a rate constant  $k = 11 \times 10^{-14} \text{ s}^{-1}$ . Find the half life of the reaction.



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15. When an acidified solution of  $\text{Na}_2\text{MoO}_n$  (atomic mass of  $\text{Mo} = 36$ ) is electrolyzed,  $\text{O}_2$  gas is liberated corresponding to a volume of 0.112 L at STP and mass of  $\text{MO}$  deposited is 0.32 g. Then the formula of the salt and oxidation state of Mo is

A.  $\text{Na}_2\text{MoO}_0$



**Answer: B**



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