CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA JEE MOCK TEST 96

Chemistry

1. Polarization means "the distortion of the shape of an anion by an anion by an adjacently

placed cation". Which of the following statements about polarization is correct

A. Maximum polarization is brought about by a cation of high charge

B. Minimum polarization is brought about by a cation of low radius

C. A large cation is likely to bring about a large degree of polarization

D. A small anion is likely is undergo a large degree of polarization

Answer: A

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2. Which one among the following ions, is smallest in size

A. N^{3-}

B. O^{2-}

C. F^{-}

D. Na^{+}

Answer: D

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3. The correct name of $|Pt(NH_3)_4Cl_2||PtCl_4|$ is

A. Tetraammine dichloro platinum (iv) tetrachloro platinate (ii)

B. Dichloro tetra ammine platinium (iv) tetrachloro platinate (ii)

C. Tetrachloro platinum (ii) tetraammine platinate (iv)

D. Tetrachloro platinum (ii) dichloro tetraammine platinate (iv)

Answer: A

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4. A $0.004M$ solution of Na_2SO_4 is isotonic with a $0.010M$ solution of glucose at same

temperature. The apparent degree of dissociation of Na_2SO_4 is

A. $25\ \%$

B. $50\ \%$

C. $75\ \%$

D. $85\ \%$

Answer: C

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5. Among oxyacids of nitrogen HNO_2 is unstabe, it can acts as

A. Oxidising agent

B. Reducing agent

C. Oxidising agent and Reducing agent

D. Its solution in stable

Answer: C

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6. For the reaction $2N_2O_5 \rightarrow 4NO_2 + O_2$ rate of reaction and rate constant are 1.02×10^{-4} and $3.4 \times 10^{-5}\,\text{sec}^{-1}$ respectively. The concentration of N_2O_5 at that time will be

A. 1.732

B. 3

C. 1.02×10^{-4}

D. 3.4×10^{5}

Answer: B

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7. Calculate value of $E^{\circ}_{Ce^{4+}/Ce^{3+}}$. IF E°_{cell} for the reaction, $2Ce^{4+} + Co \rightarrow 2Ce^{3+} + Co^{2+}$ is 1.89 V. If $E^{\circ}_{Co/Co^{2+}} = -0.28V$

A. $-1.64V$

B. $+1.64V$

C. $-2.08V$

D. $+2.17V$

Answer: B

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8. Which of the given statement is not correct

A. Phenol is more acidic than acetic acid

B. Ethanol is less acidic than phenol

C. Ethanol has lower boiling point than ethane

D. Ethyne is a non - linear molecule

Answer: A

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9. What is monomer for Orion polymer

A. Styrene

B. Tetrafluoro ethylene

C. Vinyl chloride

D. Acrylonitrile

Answer: D

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10. The most susceptible compound to nucleophilic attack at the carboyl carbon among the given bellow is

A. $MeCOCl$

B. $MeCHO$

C. $MeCOOMe$

D. $MeCOOCOMe$

Answer: A

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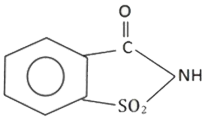
11. Which is correct about saccharin ?

A. It is 

B. It is 600 times sweeter than sugar

C. It is used as sweetening agent

D. All of these

Answer: D

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12. In a balanced equation $H_2SO_4 + xHI \rightarrow H_2S + YI_2 + zH_2O$, the value of x, y, z are

A. $x = 3, y = 5, z = 2$

B. $x = 4, y = 8, z = 4$

C. $x = 8, y = 4, z = 4$

D. $x = 5, y = 3, z = 4$

Answer: C

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13. Which is the strongest base among the following

A. $C_6H_5NH_2$

B. $p - NO_2C_6H_4NH_2$

C. $m - NO_2C_6H_4NH_2$

D. $C_6H_5CH_2NH_2$

Answer: D

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14. Most hazardous metal pollutant of automobile exhaust is

A. Mercury

B. 2 Tin

C. 3 Cadmium

D. 4 Lead

Answer: D

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15. Cerium $(Z = 58)$ is an important nember of the lanthanoids . Which of the following statements about cerium is incorrect ?

A. The $+4$ oxidation state of cerium is not known in solutions

B. The $+3$ oxidation state of cerium is more stable than the $+4$ oxidation state

C. The common oxidation states of cerium are $+3 \text{ and } +4$

D. Cerium (IV) acts as an oxidizing agent

Answer: B

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16. Pb and Sn are exerted from their chief ores by:

A. Carbon reduction and self reduction.

B. Self reduction and carborn reduction.

C. Electrolysis and self reduction.

D. Self reduction and electrolysis

Answer: B

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17. Calculate the increase in internal energy of system when 40 joule heat is supplied and the work done by a system is 8 joule

A. 25 J

B. 30 J

C. 32 J

D. 28 J

Answer: C

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18. Vapour pressure of a solution of $5g$ of non-electrolyte in $100g$ water at a particular temperature is $2985N/m^2$.The vapour pressure of pure water is $3000N/m^2$.The molecular weight of the solute is

A. 60

B. 120

C. 180

D. 380

Answer: C

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19. During formation of $CHCl_3$ from C_2H_5OH and bleaching power, which one of the following does not occur

A. Hydrolysis

B. Oxidation

C. Reduction

D. Chlorination

Answer: C

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20. The radioactive nuclide $._{90}^{234}Th$ shows two successive $\beta-$ decay followed by one $\alpha-$ decay. The atomic number and mass number respectively of the resulting atom is:

A. 92 and 234

B. 94 and 230

C. 90 and 230

D. 92 and 230

Answer: C

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21. The nucleus of an atom is spherical. The relation between radius of the nucleus and mass number A is given by

$1.25 \times 10^{-13} \times A^{\frac{1}{3}} cm$. If radius of atom is one$\mathring{A}$ and the mass number is 64, then the fraction of the atomic volume that is occupied by the nucleus is $(x) \times 10^{-13}$. Calculate x

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22. When the following aldohexose exists in Pyranose from, the total number of stereoisomers in its pyranose form is

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23. Formation of polyethylene from calcium carbide takes place as follows

$CaC_2 + 2H_2O \rightarrow Ca(OH)_2 \_ C_2H_2$

$C_2H_2 + H_2 \rightarrow C_2H_4$

$n(C_2H_4) \rightarrow (-CH_2 - CH_2-)_n$

The mass of polyethylene obtained in kg from 64 kg CaC_2 is

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24. Calculate the density $\left(\text{in kg m}^{-3}\right)$ of potassium having a bcc structure with nearest

neighbour distance of 4.52Å. (Given atomic weight of potassium is 39)

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25. Calculate milli equilvalent of washing soda required to remove its hardness from one litre hard water contains $18.00\ \text{mg}\ \text{Mg}^{2+}$

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