





CHEMISTRY

NTA MOCK TESTS ENGLISH

NTA JEE MOCK TEST 44



1. Ge (II) compounds are powerful reducing agents whereas Pb(IV) compound are strong oxidants. It can be due to

A. More powerful inert pair effect in Pb than Ge

B. The ionisation energy Pb < IE of Ge

C. Pb is more electronegative than Ge

D. The ionic radius of Ge^{2+} and Ge^{4+} are greter than

 Pb^{2+} and Pb^{4+}

Answer: A

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2. The gas leaked from a storage tank of the Union Carbide

plant in Bhopal gas tragedy was

A. Ammonia

B. Phosgene

C. Methyl isocyanate

D. Methylamine



3. Which of the following organic compounds answers to both iodoform test and Fehling's test?

A. Ethanol

B. Methanal

C. Ethanal

D. Propanone



4. The rate of a gaseous reaction is given by the expression k[A][B]. If The volume of reaction vessel is suddenly reduced to one-fourth of the initial volume, the reaction rate relative to the original rate will be :

A.
$$\frac{1}{16}$$
 times
B. $\frac{1}{8}$ times

- C. 8 times
- D. 16 times

Answer: D



5. The reaction between an alcohol and an acid with the elimination of water molecule is called

A. Esterification

B. Saponification

C. Etherification

D. Elimination

Answer: A

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6. The major product of the following reaction is:



(1) KOH (alc.)

(2) Free radical polymerisation A. 3, 3 - dimethyl but -1- ene

B. 2, 3 - dimethylbut -1- ene

C. 2, 3 - dimethyl but -2- ene

D. 4 - methylpent -2- ene

Answer: C

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7. Particle having a mass of 1.0 mg has a velocity of 3600

km/h. Calculate the wavelength of the particle.

A. $6.626 imes10^{-31}m$

 $\texttt{B.}\,6.626\times10^{-30}m$

C. $6.626 imes 10^{-29}m$

D.
$$6.626 imes 10^{-28}m$$

Answer: A



8. Which one is not an allylic halide?

A. 3 - chloro cyclo hex -1 - ene

B.1-chloro but -2-ene

C. 1 - chloro prop -1- ene.

D. 3 - chloro prop -1- ene

Answer: B



9. Tetraethyl lead is a

A. Solvent

B. Petroleum additive

C. Oxidising agent

D. Fire extinguisher

Answer: B

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10. A composite solid propellant is :

A. $N_2O_4+\,$ acrylic rubber

B. $N_2O_4+\,$ monomethyl hydrazine

C. Polyruethane + Ammonium perchloride

D. Nitrocellulose + nitroglycerine

Answer: C

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11. Which of the following alcohols is unable to turn orange colour of chromic acid green ?

A. Primay alcohol

B. Secondary alcohol

C. Tertiary alcohol

D. Allyl alcohol

12. Solid Na_2SO_4 is slowly added to a solution which is 0.020 M in $Ba(NO_3)_2$ and 0.020 M is $Pb(NO_3)_2$. Assume that there is no increase in volume on adding Na_2SO_4 . There preferential precipitation takes place. What is the concentration of Ba^{2+} when $PbSO_4$ starts to precipitate? $[K_{sp}(BaSO_4) = 1.0 \times 10^{-10} \text{ and } K_{sp}(PbSO_4) = 1.6 \times 10^{-8}]$

A.
$$5.0 imes 10^{-9} M$$

B. $8.0 imes 10^{-7} M$
C. $1.25 imes 10^{-4} M$
D. $1.95 imes 10^{-8} M$





13. 1.44 gram of Titanium (Ti) reacted with excess of O_2 and produced x gram of non-stoichiometric compound Ti $._{0.44} O$. The value of x will be :[Ti = 48]

A. 1.44

B. 2.58

C. 1.77

D. None of these

Answer: C

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14. Consider the reaction

 $CaCO_3(s) \Leftrightarrow CaO(s) + CO_2(g)$

in closed container at equilibrium. What would be the effect of addition of $CaCO_3$ on the equilibrium concentration of CO_2 ?

A. Increases

B. Decreases

C. Data is not sufficient to predict it

D. Remains unaffected

Answer: D

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15. Electrovalent bond-formation depends on:

A. ionization energy

B. lattice energy

C. electron affinity

D. all of these

Answer: D

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16. Consider the following carbocations

(I)
$$C_{6}H_{5}\overset{+}{C}H_{2}$$
 , (II) $C_{6}H_{5}CH_{2}\overset{+}{C}H_{2}$
(III) $C_{6}H_{5}\overset{+}{C}HCH_{3}$, (IV) $C_{6}H_{5}\overset{+}{C}(CH_{3})_{2}$

The correct sequence for the stability of these is

A. (II) It (I) It (III) It (IV)

B. (I) It (II) It (III) It (IV)

C. (III) lt (II) lt (I) lt (IV)

D. (IV) lt (I) lt (III) lt (I)

Answer: A



17. Which of the following is coloured compound?

A. CuF_2

 $\mathsf{B.}\,CuI$

 $\mathsf{C.}\, NaCl$

D. $MgCl_2$

Answer: A

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18. A liquid is immiscible in water was steam distilled at $95.2^{\circ}C$ at a pressure of 0.983 atm. What is the mass of the liquid present per gram of water in the distullate. Molar mass of the liquid is 134.3 g/mol and the vapour pressure of water is 0.84 atm. Also, Vapour pressure of pure liquid is 0.143 atm.

A. 1g

 $\mathsf{B}.\,1.27g$

C. 0.787g

D. 13.43g

Answer: B



19. Match the compound with the metal for which it is used

for the process of extraction.

(i) NaCN
(a) Titanium
(ii) Iodine
(b) Aluminium
(iii) Cryolite
(c) Silver ore

A. (i) - (c), (ii) - (a), (iii) - (b)

B. (i) - (c), (ii) - (b), (iii) - (a)

C. (i) - (a), (ii) - (c), (iii) - (b)

D. (i) - (b), (ii) - (a), (iii) - (c)

Answer: A





20. On heating a mixture of $NaCl, K_2Cr_2O_7$ and conc. H_2SO_4 which of the following is formed ?

A. CrO_2Cl

 $\mathsf{B.} \mathit{CrO}_2 \mathit{Cl}_2$

 $C. CrOCl_2$

D. $NaClO_2$

Answer: B



21. Calculate the emf of the cell in which the following reaction takes place :

 $Ni(s) + 2Ag^+(0.002M) o Ni^{2+}(0.160M) + 2Ag(s)$

Given that $E^{\,\Theta}_{
m cell}=1.05V$



22. The EAN of Zn in
$$ig[Zn(NH_3)_4ig]^{2+}$$
 is

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23. To a 25 mL H_2O_2 solution excess of an acidified solution of

potassium iodide was added. The iodine liberated required 20 mL of 0.3 N sodium thiosulphate solution Calculate the volume strength of H_2O_2 solution.



24. How many of the following metals can be extracted by

auto - reduction ?

Fe, Zn, Pb, Al, Hg, Cu, K, Ca

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25. In the Freundich adsorption isotherm, the value of $\left(\frac{1}{n}\right)$

is between 0 and

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