



## CHEMISTRY

### BOOKS - NTA MOCK TESTS

#### NTA JEE MOCK TEST 44

#### Chemistry

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 stronge tank of the Union Carbide plant in Bhopal gas tragedy was

A. Ammonia

B. Phosgene

C. Methyl isocyanate

D. Methylamine

**Answer: C**



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

- A. Ethanol
- B. Methanal
- C. Ethanal
- D. Propanone

**Answer: C**



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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**



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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 in the dehydrohalogenation of 3 -  
Bromo - 2, 2 - dimethylbutane is

- 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.  $6.626 \times 10^{-31} m$
- B.  $6.626 \times 10^{-30} m$
- C.  $6.626 \times 10^{-29} m$

D.  $6.626 \times 10^{-28} m$

**Answer: A**



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**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**



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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

**Answer: C**



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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?  $[K_{sp}(BaSO_4) = 1.0 \times 10^{-10}$  and  $K_{sp}(PbSO_4) = 1.6 \times 10^{-8}]$

A.  $5.0 \times 10^{-9} M$

B.  $8.0 \times 10^{-7} M$

C.  $1.25 \times 10^{-4} M$

D.  $1.95 \times 10^{-8} M$

Answer: C

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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

C. 1.77

D. None of these

**Answer: C**

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14.  $\text{CaCO}_3(s) \rightleftharpoons \text{CaO}(s) + \text{CO}_2(g)$  in closed container at equilibrium. What would be the effect of addition of  $\text{CaCO}_3$  on the equilibrium concentration of  $\text{CO}_2$ .

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

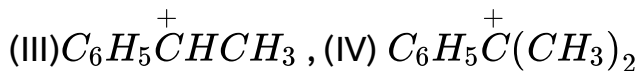
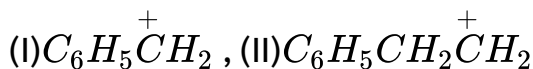
D. all of these

**Answer: D**



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**16.** Consider the following carbocations



The correct sequence for the stability of these is

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

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

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

D. (IV) It (I) It (III) It (I)

**Answer: A**



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**17. Which of the following is coloured compound?**

A.  $CuF_2$

B.  $CuI$

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 distillate. 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

B. 1.27g

C. 0.787g

D. 13.43g

**Answer: B**



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**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**



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

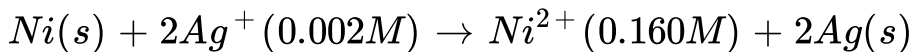


**Answer: B**



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21. Calculate the e.m.f. of the cell in which the following reaction takes place :



Given  $E_{cell}^{\circ} = 1.05 \text{ v}$

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22. The EAN of Zn in  $[Zn(NH_3)_4]^{2+}$  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.

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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 Freundlich adsorption isotherm, the value of  $\left(\frac{1}{n}\right)$  is between 0 and ..... .

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