CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET TEST 80

Chemistry

1. The energies of orbitals of hydrogen atom are in the order

A. $3s < 3p < 4s < 3d < 4p$

B. $3s < 3p < 3d < 4s < 4p$

C. $3s = 3p = 3d < 4s = 4p$

D. $3s = 3p = 3d < 4s < 4p$

Answer: C

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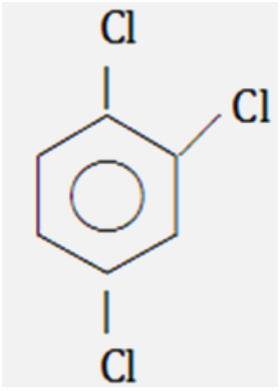
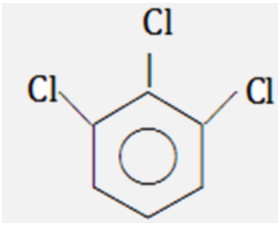
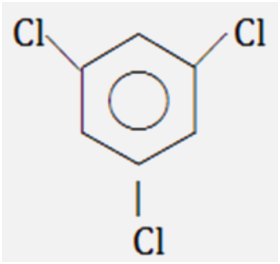
2. Which has maximum dipole moment ?

A. 

B. 

C. 

D. 

Answer: B

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3. the reaction of $C_6H_5O^-Na^+$ and CO_2 at 6 atm 400 K, followed by addition of aq.acid is called

A. Reimer - Tiemann reaction

B. Kolbe reaction

C. Wurtz reaction

D. Cannizzaro reaction

Answer: B

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4. In an ocahedral crystal field, the t_{2g} orbitals are

A. Raised in energy by 0.4 Δ_0

B. Lowered in energy by $0.4\Delta_0$

C. Raised in energy by 0.6 Δ_0

D. Lowered in energy by $0.6\Delta_0$

Answer: B

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5. On prolonged exposure to air, sodium finally change to :

A. Na_2CO_3

B. Na_2O

C. $NaOH$

D. $NaHCO_3$

Answer: A

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6. The hydration energy of Mg^{2+} is larger than that of

A. Al^{3+}

B. Na^{+}

C. Be^{2+}

D. K^{+}

Answer: B

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7. Under what conditions will a pure sample of an ideal gas not only exhibit a pressure of $1atm$ but also a concentration of 1 mol $litre^{-1}$

$[R = 0.082$ iltre atm $mol^{-1}K^{-1}]$

A. At STP

B. When V = 22.4

C. When T = 12 K

D. Impossible under any condition

Answer: C

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8. 1, 2 - dibromopropane , when heated with Zn dust in ethanol, gives

A. propane

B. propene

C. propene

D. ethyne

Answer: B

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9. Which statement is not true about potas alum?

A. Its empirical formula is $Kal(SO_4)_{2.12}H_2O$

B. Its aqueous solution is basic in nature

C. It is used in dyeing industry

D. On heating , it melts in its water of

Answer: B

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10. The electrical resistivity of a semiconductor :

A. increases with temperature

B. decreases with temperature

C. increase at low temperature and then decreases

D. does not change with temperature

Answer: B

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11. Lead is only slightly attacked dilute hydrochloric acid , because

A. Pb is less electropositive than hydrogen

B. PbO_2 film is always present on Pb, which resists chemical attack

C. PbO film is formed , which resists chemical attack by acid

D. a protective coating of $PbCl_2$ is formed on the Pb surface

Answer: D

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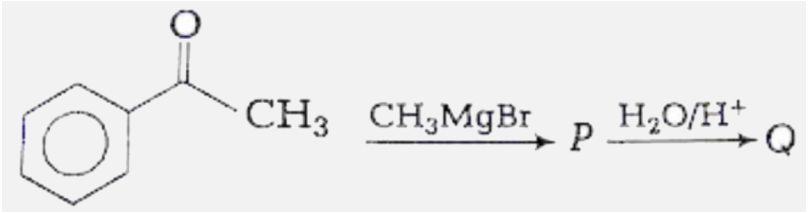
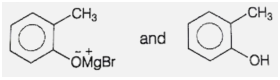
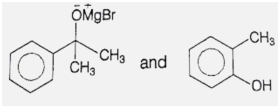
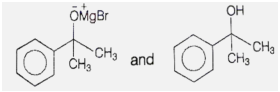
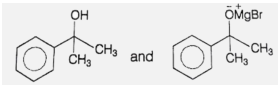
12. 

In the above reaction , P and Q respectively are

A. 

B. 

C. 

D. 

Answer: C

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13. The order of increasing sizes of atomic radii among the elements O, S, Se and As is :

A. $As < S < O < Se$

B. $Se < S < As < O$

C. $O < S < As < Se$

D. $O < S < Se < As$

Answer: D

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14. Consider the equilibrium $CO_2(g) \Leftrightarrow CO(g) + \frac{1}{2}O_2(g)$ The equilibrium constant K is given by (when $a < < < 1$)

A. $K = \frac{\alpha^{3/2}}{\sqrt{2}}$

B. $K = \frac{\alpha^3}{2}$

C. $K = \frac{\alpha^3/2}{2}$

D. $K = \frac{\alpha^{3/2}}{\sqrt{3}}$

Answer: A

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15. An aqueous mixture at room temperature is 0.1 M with respect to ammonium chloride and 0.01 M with respect to NH_4OH, pK_b of aqueous ammonia as base is 5. The pH of the mixture is nearly

A. 7.5

B. 6.8

C. 6.5

D. 8.0

Answer: D

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16. When tert - butyl alcohol is heated with Cu at 573 K, it forms

A. butanal

B. propanal

C. ethyl methyl ketone

D. 2 - methylprop - 1- ene

Answer: D

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17. In which of the following compounds does the ratio of anion to cation size have the lowest value?

A. NaCl

B. KCl

C. $MgCl_2$

D. NaBr

Answer: B

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18.

$$CH_3 - \underset{Br}{CH} - \underset{Br}{CH_2} \xrightarrow[alc.]{KOH} CH_3 - CH = \underset{Br}{CH} \xrightarrow{\text{Reagent}} CH_3C \equiv CH$$

The reagent is

A. sodium

B. KOH in etanol

C. sodamide

D. zinc dust in ethanol

Answer: C

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19. Copper metal has a specific heat of 0.385 J/ $g^\circ C$ and has melting point of $1083^\circ C$. Calculate the amount of heat required

to raise the temperature of 22.8 g of Cu from $20.0^{\circ}c$ to $875^{\circ}C$

.

A. $1.97 \times 10^{-5}J$

B. $1.0 \times 10^{-2}J$

C. 329 J

D. 7.50 kJ

Answer: D

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20. Ammonia forms the complex $\left[Cu(NH_3)_4\right]^{2+}$ with copper ions in alkaline solution but not in acid solution. The reasons for it is:

A. In acidic solution , protons coordinate with ammonia molecules forming NH_4^+ ions and NH_3 molecules are not available

B. In alkaline solutions insoluble $Cu(OH)_2$ is precipitated which is soluble in excess of any alkali

C. Copper hydroxide is an amphoteric substance

D. In acidic solutions hydration protects copper ions

Answer: A

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21. Pick out the incorrect statement for XeF_4

A. XeF_4 disproportionates violently with water

B. It is used as fluorinating agent

C. It has octahedral shape

D. It oxidizes I^- or I_2

Answer: C

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22. Study the following table

	Compound (mol. mass)	Mass of the compound (in gram) taken
I.	$CO_2(44)$	4.4
II.	$NO_2(46)$	2.3
III.	$H_2O_2(34)$	6.8
IV.	$SO_2(64)$	1.6

Which two compounds have least mass of oxygen ?

A. II and IV

B. I and III

C. I and II

D. III and IV

Answer: A

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23. Gold is extracted by making soluble cyanide complex. The cyanide complex is

A. $\left[Au(CN)_4\right]^-$

B. $\left[Au(CN)_2\right]^-$

C. $\left[Au(CN)_3\right]^-$

D. $\left[Au(CN)\right]^-$

Answer: B

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24. In Cr - atom the number of 3d - electron having spin quantum number , s = + $\frac{1}{2}$ are

A. 10

B. 5

C. 2

D. 1

Answer: B

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25. The products of the reaction of HCHO and PhCHO in presence of concentrated base are

A. $HCH_2OH + PhCOO^-$

B. $HCOO^- + PhCH_2OH$

C. $PhCOOCH_3$

D. $HCOOCH_2Ph$

Answer: B

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26. Identify (Z) in the following sequence of reactions.

$CH_3CH_2COCl \xrightarrow{HN\_3} (X) \xrightarrow{\Delta} (Y) \xrightarrow{H_2O} (Z)$

A. CH_3CH_2NCO

B. $CH_3CH_2NHCOOH$

C. $CH_3CH_2NH_2$

D. $CH_3\underset{\underset{NH_2}{|}}{C}HCOOH$

Answer: C

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27. One mole of water is converted to vapour at its boiling point $100^\circ C$ and '1' atmospheric pressure. For this process, which one of following statement is correct ?

A. $\Delta S = 0$

B. $\Delta G = 0$

C. $\Delta H = 0$

D. $\Delta E = 0$

Answer: B

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28. Select the correct statement

A. 2-3% alcohol - iodine mixture is known as tincture of iodine

B. Iodoform solution is antiseptic for wounds

C. Boric acid solution is antiseptic for eyes

D. All of these

Answer: D

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29. How much time is required for complete decomposition of 4 moles of water using 4 ampere?

A. 1.93×10^5 sec

B. 3.85×10^4 sec

C. 96500 sec

D. 2.92×10^5 sec

Answer: A

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30. The pH at the equivalence point of a titration may differ from 7.0 because of

A. the initial concentration of the standard solution

B. the indicator

C. the self - ionization of H_2O

D. hydrolysis of the salt formed

Answer: D

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31. What type of polymer is represented by following segment ?

$$-\overset{O}{\overset{||}{C}}-CH_2CH_2-\overset{O}{\overset{||}{C}}-OCH_2CH_2O-$$

A. Polyamide

B. Polyester

C. Polyolefin

D. Polyethylene

Answer: B

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32. D-glucose & D-fructose can be differentiated by :

A. Fehling solution

B. Tollen's reagent

C. Benedict test

D. Br_2 / H_2O

Answer: D

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33. Chemicals that are responsible for communication of message between neurons and muscules are known as

A. messengers

B. allogens

C. antagonists

D. receptors

Answer: A

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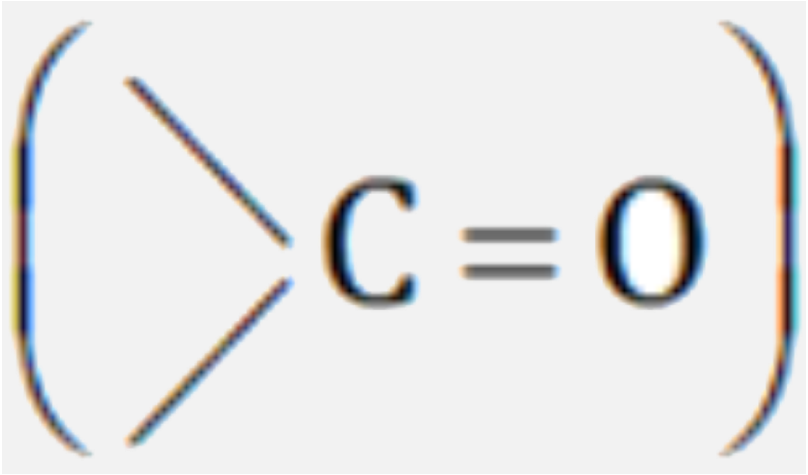
34. The properties of carbonyl group



is

suppressed the most in

A. CH_3CHO

B. CH_3COCH_3

C. CH_3COOCH_3

D. CH_3CONH_2

Answer: D

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35. The reaction of ethyl p - amiobenzoate with HNO_2 and then with HBF_4 yields a compounds (X), a crystalline ionic compound. Compound (X) , when heated forms $C_9H_9O_2F$(Y). The compound (Y) is

A. ethyl p - fluorobenzoate

B. ethyl o - fluorobenzoate

C. ethyl m - fluorobenzoate

D. mixture of all the above

Answer: A

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36. One molee of methanol when burnt in O_2, gives out 723 kJ mol^{-1} of heat. If one mole of O_2 is used, what will be the amount of heat evovled?

A. 723 kJ

B. 964 kJ

C. 48 kJ

D. 241 kJ

Answer: C

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37. Colour of I_2 solution is discharged , when solution of 'X' is added . 'X' is

A. H_2SO_4

B. Na_2SO_4

C. $Na_2S_2O_3$

D. S_8

Answer: C

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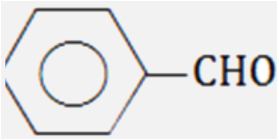
38. Which of the following compounds will recact with ethanolic KCN?

A. CH_3CH_2Cl

B. CH_3COCl

C. C_6H_5Cl

D. 

Answer: C

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39. In the aluminothermite process, aluminium is

A. an oxidizing agent

B. a flux

C. a reducing agent

D. a solder

Answer: C

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40. A mixture of 100 mL of oxygen and 500 mL of hydrogen is reacted to form water . What is maximum theoretical decrease in volume at $25^{\circ} C$?

A. 30 mL

B. 300 mL

C. 100 mL

D. 500 mL

Answer: B

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41. Which of following trihalides of nitrogen behaves as the weakest base?

A. NF_3

B. NCl_3

C. NBr_3

D. NI_3

Answer: A

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42. Which of the following bonds has the highest bond energy ?

A. O - O

B. S - S

C. Se - Se

D. Te - Te

Answer: B

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43. Which one of following has maximum boiling point ?

A. 0.2 M NaOH

B. 0.2 M Na_2CO_3

C. 0.1 M $AgNO_3$

D. 0.1 M $(NH_4)_2SO_4.FeSO_{4.6}H_2O$

Answer: B

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44. The following reaction $R-CH_2CH_2\overset{+}{N}(CH_3)_3OH^-$ is called $\xrightarrow{\Delta} RCH=CH_2+N(CH_3)_3+H_2O$

A. Hoffmann - bromamide reaction

B. Cope elimination

C. Hoffmann elimination

D. Beckmann rearrangement

Answer: C

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45. Which statement correctly the statement ?

Except for glycine, which is achiral, all the amino acids present in proteins....

A. Are chiral , but recemic

B. Have the L configuration at their α carbon

C. Have the R configuration at their α carbon

D. Have the S configuration at their α carbon

Answer: B

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