



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 97

Chemistry

1. Fluorine is more electronegative than either boron or phosphorous. What conclusion can be drawn from the fact that BF_3 has no dipole moment but PF_3 does

A. BF_3 is not spherically symmetrical but PF_3 is

B. BF_3 molecule must be linear

C. The atomic radius of P is larger than the atomic radius of B

D. The BF_3 molecule must be planar triangular

Answer: D



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2. The number of nodal planes in a p_x orbital is.

A. One

B. Two

C. Three

D. Zero

Answer: A



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3. The coordination number of a central metal atom in a complex is determined by:

A. The number of ligands around a metal ion bonded by sigma and pi- bonds both.

B. The number around a metal ion bonded by pi - bonds

C. The number of ligands around a metal ion bonded by sigma bonds

D. The number of only anionic ligands bonded to the metal ion

Answer: C

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4. pH of a solution produced when an aqueous solution of $pH = 6$ is mixed with an equal volume of an aqueous solution of $pH = 3$ is about :

A. 3.3

B. 4.3

C. 4.0

D. 4.5

Answer: A



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5. A substance X is a compound of an element of group 1A the substance X gives a violet colour in flame test, X is

A. LiCl

B. NaCl

C. KCl

D. None

Answer: C

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6. Beilstein test is used for

A. N_2

B. Cl

C. Na

D. CO_2

Answer: B



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7. The basis for the classification of elements in the modern periodic table is

- A. Increasing mass
- B. Increasing volume
- C. Increasing atomic number
- D. Alphabetically

Answer: C



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8. If doubling the concentration of a reactant 'A' increases the rate 4 times and tripling the concentration of 'A' increases the rate 9 times, the rate is proportional to

- A. Concentration of 'A'
- B. Square of concentration of 'A'
- C. Under root of the concentration of 'A'
- D. Cube of concentration of 'A'

Answer: B



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9. Rgw atomic weight of Al is 27. When a current of $5F$ is passed through a solution of Al^{+++} ions, the qeight of AL deposited is.

A. 27 gm

B. 36 gm

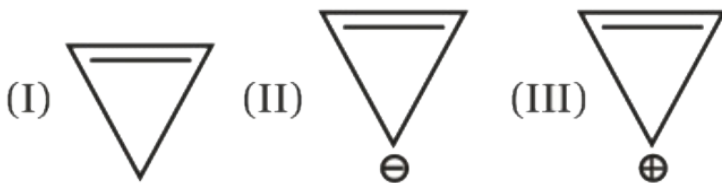
C. 45 gm

D. 39 gm

Answer: C



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10.

Which of these cyclopropene system is aromatic ?

A. I

B. II

C. III

D. All of these

Answer: C



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11. Synthetic fibres manufactured from cellulose are termed as:

A. They have high molecular weights and high melting points

B. They have a high degree of cross - linking by strong C - C bond

C. They have linear molecules consisting of very long chains

D. They have linear molecules interlinked with forces like hydrogen bonding

Answer: D





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12. Consider the reaction, $N_2 + 3H_2 \rightarrow 2NH_3$ carried out at constant temperature and pressure. If ΔH and ΔU are the enthalpy and internal energy changes for the reaction, which of the following expressions is true?

A. $\Delta H = 0$

B. $\Delta H = \Delta U$

C. $\Delta H < \Delta U$

D. $\Delta H > \Delta U$

Answer: C



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13. Which of the following methods can be used to prepare aldehydes ?

- A. Tollen's reagent
- B. Fehling solution
- C. Benedic solution
- D. All of these

Answer: D



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14. A crystalline solid

- A. Changes abruptly from solid to liquid when heated
- B. Has no definite melting point
- C. Undergoes deformation of its geometry easily
- D. Has an irregular 3 - dimensional

Answer: A



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15. Statement: In an acid-basic titration involving a strong base and a weak acid, methyl orange can be used as an indicator.

Explanation: Methyl orange changes its colour in the pH range 3 to 5.

- A. Colorless in alkaline medium
- B. Red colour in acid medium
- C. Yellow colour in acid medium
- D. Yellow colour in alkaline medium and red colour in acid medium

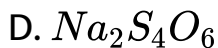
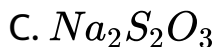
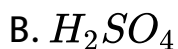
Answer: D



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16. Sulphur has highest oxidation state in a. SO_2 b. H_2SO_4 c. $Na_2S_4O_6$ d. $Na_2S_2O_3$

A. SO_2



Answer: B



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17. A metal ion from the first transition series has a magnetic moment (calculated) of $2.83BM$. How many unpaired electrons are expected to be present in the ion?

A. 6

B. 4

C. 3

D. 2

Answer: D



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18. Which of the following method is not used for the concentration of bauxite ore

A. Froth flotation

B. Electromagnetic separation

C. Chemical separation

D. Hydraulic separation

Answer: C

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19. The percentage s-character of the hybrid orbitals in methane , ethene are respectively

A. 25,33,50

B. 25,50,75

C. 50,75,100

D. 10,20,40

Answer: A

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20. Which of the following alcohols will show positive iodoforms test?

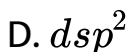
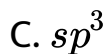
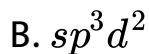
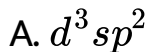
- A. Only ethyl alcohol
- B. Methyl alcohol and ethyl alcohol
- C. Ethyl alcohol and acetone
- D. Only acetone

Answer: C



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21. The type of hybridization involved in the metal ion of $[Ni(H_2O)_6]^{2+}$ complex is



Answer: B



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22. Which statement of the following is incorrect .

- A. Molecularity of a reaction is always a whole number
- B. Order and molecularity of a reaction need not be same
- C. order of reaction may be zero
- D. Order of a reaction depends upon the mechanism of the reaction

Answer: D



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23. Standard reduction electrode potentials of three metals A, B and C are respectively $+0.5V$, $-3.0V$ and $-1.2V$. The reducing powers of these metals are:

A. $B > C > A$

B. $A > B > C$

C. $C > B > A$

D. $A > C > B$

Answer: A



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24. Which is true about use of H_2O_2 as solvent

A. Poor polar solvent than water

B. Better polar solvent than H_2O

C. Both have equal polarity

D. Better polar solvent but its strong auto oxidising ability limits its use as such

Answer: D



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25. The correct relationship between the boiling points of very dilute solutions of $AlCl_3(t_1)$ and $CaCl_2(t_2)$ having the same molar concentration is:

A. $t_1 = t_2$

B. $t_1 > t_2$

C. $t_2 > t_1$

D. $t_2 \geq t_1$

Answer: B



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26. The translational kinetic energy of an ideal gas depends only its

A. Pressure

B. Force

C. Temperature

D. Molar mass

Answer: C



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27. If isobutane and n-butane are present in a gas, then how much oxygen should be required for complete combustion of 5 kg of this gas

A. 17.9 kg

B. 9 kg

C. 27 kg

D. 1.8 kg

Answer: A



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28. The equation for Freundlich adsorption isotherm is

A. $\frac{x}{m} = kp^{1/n}$

B. $x = mkp^{1/n}$

C. $x/m = kp^{-n}$

D. All of these

Answer: D



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29. Treatment of ammonia with excess of ethyl chloride will yield

A. Diethyl amine

B. Ethane

C. Tetraethyl ammonium chloride

D. Methyl amine

Answer: C



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30. In an experiment, addition of 5.0mL , of 0.006M BaCl_2 to 10.0mL of arsenic sulphite sol just causes the complete coagulation in 34h . The flocculating value of the effective ion is:

A. 2

B. 3

C. 4

D. 5

Answer: A



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31. The reagent used to detect sugar in the urine is

A. Molisch test

B. Dunstan's test

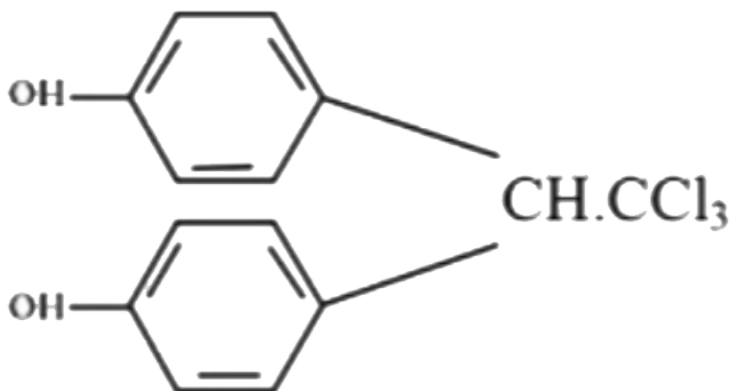
C. Benedict's test

D. Legal's test

Answer: C

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32. The formula



refers to

A. BHC

B. DDT

C. DNA

D. RNA

Answer: B

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33. What should be added to the plastics , to change from hard to soft and readily workable into new object .

A. Catalysts

B. Telomers

C. Plasticisers

D. Vulcaniser

Answer: C

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34. Acetamide is treated with the following reagents separately. Which one of these would yield methyl amine?

A. PCl_5

B. $NaOH + Br_2$

C. Sodalime

D. Hot conc. H_2SO_4

Answer: B

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35. Which of the following compound is formed in borax bead test ?

- A. Meta borate
- B. Tetra borate
- C. Double oxide
- D. Ortho borate

Answer: A



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36. In $CuSO_4 \cdot 5H_2O$ copper is coordinated to

- A. Five water molecules
- B. Four water molecules
- C. One sulphate anion
- D. One water molecule

Answer: B



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37. An electrochemical cell is shown below
 $Pt, H_2(1\text{atm}) | HCl(0.1M) | CH_3COOH(0.1M) | H_2(1\text{atm})$
, The emf of the cell will not be zero, because

- A. The pH of 0.1M HCl and 0.1M acetic acid is not the same
- B. Acids used in two compartments are different
- C. E.M.F of a cell depends on the molarities of acids used
- D. The temperature is constant

Answer: A



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38. The paramagnetic character of transition metals is due to the presence of unpaired electron in

- A. Their high Melting point and Boiling point
- B. The presence of vacant orbitals
- C. The presence of one more unpaired electrons in the system
- D. Their being less electropositive than the elements of groups I - A and II - A

Answer: C



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39. What is chemical equilibrium ? Write the characteristics of the chemical equilibrium.

- A. Mutual opposite reactions undergoes
- B. Concentration of reactants and resulting products are equal
- C. Velocity of mutual reaction become equal
- D. The temperature of mutual opposite reactions becomes equal

Answer: C



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40. Which of the following explanations accounts for o-nitro-phenol to be more volatile than p-nitrophenol?

- A. Resonance
- B. Hyperconjugation
- C. Hydrogen bonding
- D. Steric hindrance

Answer: C



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41. The increasing order (lowest first) for the values of e/m (charge//mass) for electron (e), proton (p), neutron (n), and alpha particle (α) is

A. $e < p < n < \alpha$

B. $n < p < e < \alpha$

C. $n < p < \alpha < e$

D. $n < \alpha < p < e$

Answer: D



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42. Which of the following compounds is known as oil of winter green?

A. Phenyl benzoate

B. Phenyl salicylate

C. Phenyl acetate

D. Methyl salicylate

Answer: D



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43. In Carius method, $0.099g$ organic compound gave $0.287g AgCl$. The percentage of chlorine in the compound will be

A. 28.6

B. 71.71

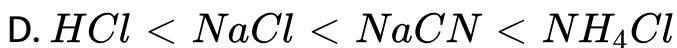
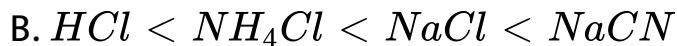
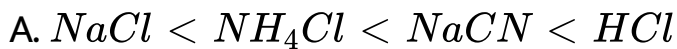
C. 35.4

D. 64.2

Answer: B

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44. The pH of $0.1M$ solution of the following salts increases in the order



Answer: B

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45. Which of the following is correct for a first order reaction ?

- A. The degree of dissociation is equal to $(1 - e^{-kt})$
- B. A plot of reciprocal concentration of the reactant vs time gives a straight line
- C. The time taken for the completion of 75% reaction is thrice the $t_{1/2}$ of the reaction
- D. The pre - exponential factor in the Arrhenius equation has the dimension of time T^{-2}

Answer: A



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