



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 54

Chemistry

1. The Lyman series of hydrogen spectrum lies in the region :

- A. from a particular higher energy level to $n = 3$
- B. from a particular higher energy level to $n = 2$
- C. from a particular higher energy level to $n = 1$
- D. from a particular higher energy level to $n = 4$

Answer: C



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2. What volume of 75% alcohol by weight ($d = 0.80g/cm^3$) must be used to prepare 150 cm^3 of 30 % alcohol by mass ($d = 0.90g/cm^3$) ?

A. 44.44 mL

B. 56.25 mL

C. 67.5 mL

D. 33.56 mL

Answer: C

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3. Two moles of an ideal gas are allowed to expand from a volume of 10 dm^3 to 2 m^3 at 300 K against a pressure of 101.325 kPa. Calculate the work done.

A. -201.6 kJ

B. 13.22kJ

C. -810kJ

D. -18.96kJ

Answer: A

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4. Which of the two ions from the list given have the geometry that is explained by the same hybridization of orbitals

NO_2^- , NO_3^- , NH_2^- , NH_4^+ , SCN^- ?

A. NO_2^- and NO_3^-

B. NH_4^+ and NO_3^-

C. SCN^- and NH_2^-

D. NO_2^- and NH_2^-

Answer: A



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5. An ideal gas , obeying kinetic theory of gases cannot be liquefied, because :-

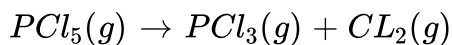
- A. it solidifies becoming a liquid
- B. forces acting between its molecules are negligible
- C. its critical temperature is above $0^{\circ}C$
- D. its molecules are relatively small in size

Answer: B



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6. For the gas phase reaction,



Which of the following conditions are correct?

A. $\Delta H < 0$ and $\Delta S < 0$

B. $\Delta H > 0$ and $\Delta S < 0$

C. $\Delta H = 0$ and $\Delta S < 0$

D. $\Delta H > 0$ and $\Delta S > 0$

Answer: D

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7. What is the correct increasing order of ionic atomic radii in the following ?

A. $Si^{4+} < P^{5+} < S^{6+} < Cl^{7+}$

B. $P^{5+} < Si^{4+} < Cl^{7+} < S^{6+}$

C. $Cl^{7+} < S^{6+} < P^{5+} < Si^{4+}$

D. $S^{6+} < P^{5+} < Cl^{7+} < Si^{4+}$

Answer: C

8. The rapid change of pH near the stoichiometric point of an acid base titration is the basis of indicator detectio. pH of the solution is related to ratio of the concentrations of the conjugate acid (Hin) and base (In^-) forms of the indicator given by the expression

A. $\log. \frac{[In^-]}{[HIn]} = pK_{In} - pH$

B. $\log. \frac{[HIn]}{[In^-]} = pK_{In} - pH$

C. $\log. \frac{[HIn]}{[In^-]} = pH - pK_{In}$

D. $\log. \frac{[In^-]}{[HIn]} = pH - pK_{In}$

Answer: D

9. Reaction $2BaO_2(s) \rightleftharpoons 2BaO(s) + O_2(g)$, $\Delta H = +ve$. At equilibrium condition, pressure of O_2 is depended on:

- A. increase mass of BaO_2
- B. increase mass of BaO
- C. increase temperature on equilibrium
- D. increase mass of BaO_2 and BaO both

Answer: C

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10. $Al_2(SO_4)_3$ is used in the following but not

- A. as a coagulant in treating drinking water
- B. in plastic industry
- C. as a mordant in dyeing
- D. both C and D

Answer: B

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11. Oxidation state of Fe in Fe_3O_4 is:

A. $\frac{5}{4}$

B. $\frac{4}{5}$

C. $\frac{3}{2}$

D. $\frac{8}{3}$

Answer: D



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12. A 5 molar solution of H_2SO_4 is diluted from 1 litre to 10 litres. What is the normality of the solution?

A. 0.25 N

B. 1 N

C. 7 N

Answer: B



13. Consider the decomposition of N_2O_5 as $N_2O_5 \rightarrow 2NO_2 + \frac{1}{2}O_2$ The rate of reaction is given by

$$\frac{-d[N_2O_5]}{dt} = \frac{1}{2} \frac{d[NO_2]}{dt} = 2 \frac{d[O_2]}{dt} = k_1[N_2O_5] \quad \text{Therefore, } \frac{-d[N_2O_5]}{dt} =$$

Choose the correct option.

A. $4k_1 = 2k_1' = k_1''$

B. $4k_1 = k_1' = 2k_1''$

C. $k_1 = 2k_1' = k_1''$

D. $2k_1 = k_1' = 4k_1''$

Answer: D



14. BCl_3 molecule is planar while NCl_3 is pyramidal because

- A. nitrogen atom is smaller than boron atom
- B. BCl_3 has no lone pair but NCl_3 has a lone pair of electrons on their central atoms
- C. B - Cl bond is more polar than N - Cl bond
- D. N - Cl bond is more covalent than B - Cl bond

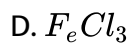
Answer: B



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15. Which of the following salts is the most basic in aqueous solution?

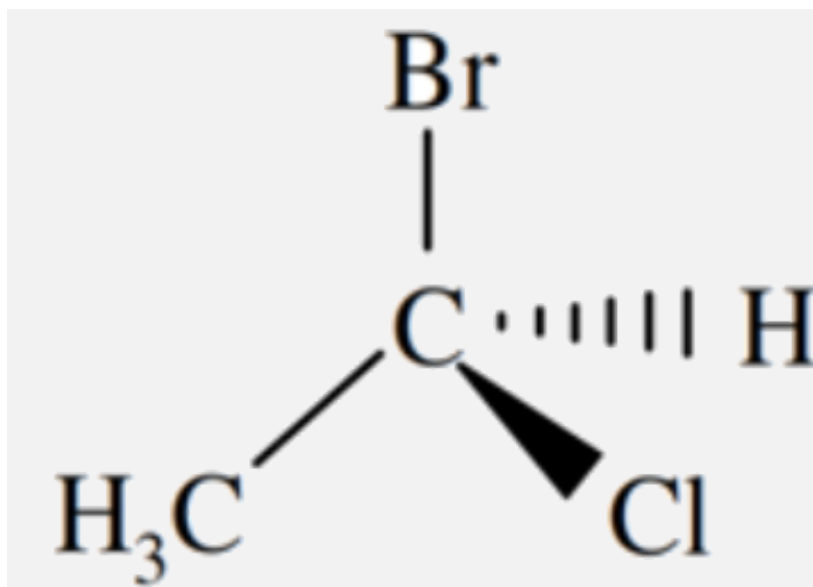
- A. $Pb(CH_3COO)_2$
- B. $Al(CN)_3$
- C. CH_3COOK



Answer: C

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16. The absolute configuration of the compound



A. R

B. S

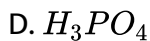
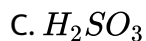
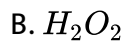
C. E

D. Z

Answer: A

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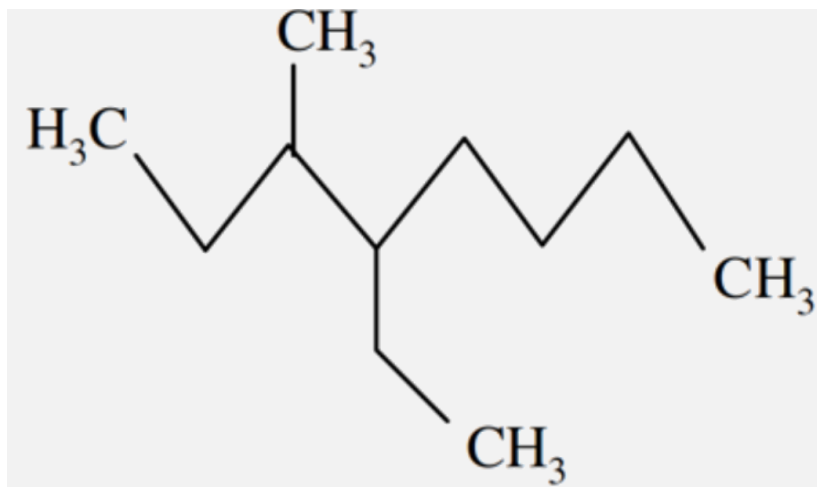
17. The compound that cannot act both as oxidising and reducing agent is



Answer: D

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18. Name of the compound given below is



A. 4 - ethyl - 3 - methyloctane

B. 3 - methyl - 4- ethyloctane

C. 2,3 - diethylheptane

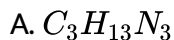
D. 5 - ethyl - 6 - methyloctane

Answer: A



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19. The percentage of C, H and N in an organic compound are 40% , 13.3% and 46.7% respectively then empirical formula is



Answer: C



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20. Which halide does not get hydrolysed by sodium hydroxide?

A. Vinyl chloride

B. Methyl Chloride

C. Ethyl chloride

D. Isopropyl chloride

Answer: A

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21. Which one of the following alkenes will react faster with H_2 under catalyst hydrogenation condition?

A. 

B. 

C. 

D. 

Answer: A

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22. Zn converts from its melted state to its solids state, it has hcp structure, then find out the number of nearest atoms.

A. 6

B. 8

C. 12

D. 4

Answer: C

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23. Pure water can be obtained from sea water by

A. centrifugation

B. plasmolysis

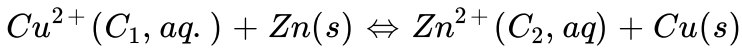
C. reverse osmosis

D. sedimentation

Answer: C

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24. For the cell reaction



of an electrochemical cell, the change in free energy (ΔG) of a given temperature is a function of

- A. $\ln(\text{C}_2)$
- B. $\ln(\text{C}_2/\text{C}_1)$
- C. $\ln(\text{C}_1)$
- D. $\ln(\text{C}_1 + \text{C}_2)$

Answer: B



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25. Which one of the following ores is best concentrated by froth flotation method:

A. Malachite

B. Magnetite

C. Siderite

D. Galena

Answer: D



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26. On heating one end of a piece of a metal, the other end becomes hot because of

A. energised electrons moving to the other end

B. minor perturbation in the energy of atoms

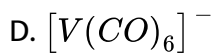
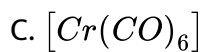
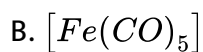
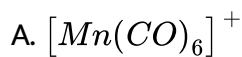
C. resistance of the metal

D. mobility of atoms in the metal

Answer: A

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27. Among the following metal carbonyls, the $C - O$ bond order is lowest in



Answer: D

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28. The Langmuir adsorption isotherm is deduced using the assumption.

A. the adsorption sites are equivalent in their ability to adsorb the particles

- B. the heat of adsorption varies with coverage
- C. the adsorbed molecules interact with each other .
- D. the adsorption takes place in multi layers

Answer: A

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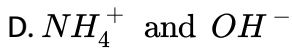
29. Which of the following phosphorus is the most reactive?

- A. Scarlet phosphorus
- B. White phosphorus
- C. Red phosphorus
- D. Violet phosphorus

Answer: B

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30. Aqueous solution of ammonia consists of



Answer: D



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31. A dilute aqueous solution of $CuSO_4$ is electrolysed using platinum electrodes. The products at the anode and cathode are:

A. copper is liberated at cathode , sulphur at anode

B. copper is liberated at cathode , oxygen at anode

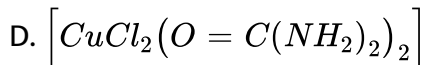
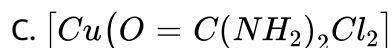
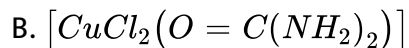
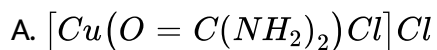
C. sulphur is liberated at cathode , oxygen at anode

D. oxygen is liberated at cathode , copper at anode

Answer: B

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32. The formula of dichlorobis (urea) copper (II) is



Answer: D

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33. Grignard reagent is prepared by the reaction between:

A. magnesium and alkane

B. magnesium and aromatic hydrocarbon

C. zinc and alkyl halide

D. magnesium and alkyl halide

Answer: D

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34. When of the following can work as a dehydrating agent for alcohols

A. H_2SO_4

B. Al_2O_3

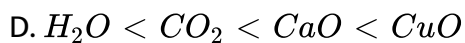
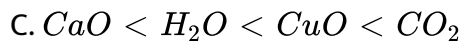
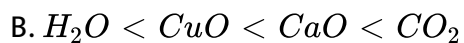
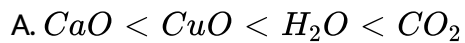
C. H_3PO_4

D. All of these

Answer: D

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35. Identify the correct order of acidic strengths of CO_2 , CuO , CaO and H_2O



Answer: A

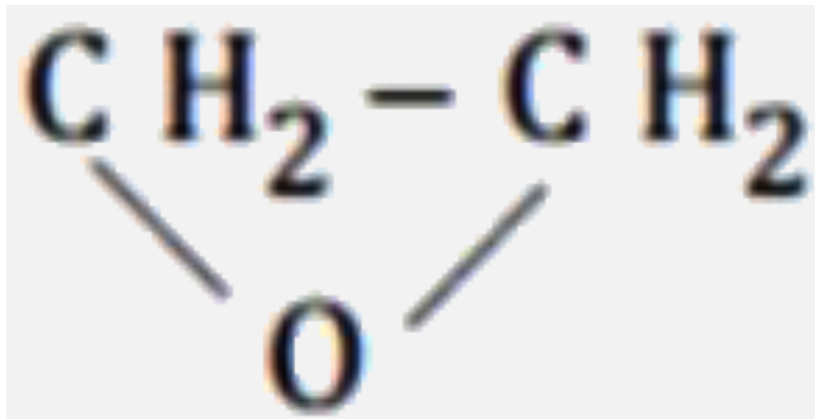


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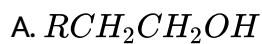
36.

Reaction

of

with $RMgX$

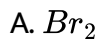
lead to formation of



Answer: A

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37. The species which acts as electrophile in the bromination of benzene is :

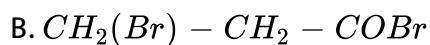
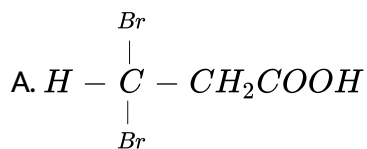


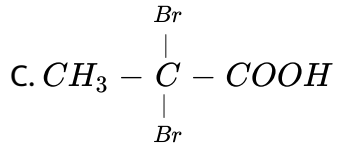
Answer: C



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38. Propionic acid with Br_2/P yields a dibromo product. Its structure would be





Answer: C

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39. Which can be oxidized to the corresponding carbonyl compound?

A. 2 - hydroxypropane

B. ortho - nitrophenol

C. Phenol

D. 2 - methyl - 2- hydroxypropane

Answer: A

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40. What is the catalyst used for oxidation of SO_2 to SO_3 in lead chamber process for manufacture of sulphuric acid ?

- A. Nitric oxide
- B. Nitrous oxide
- C. Potassium iodide
- D. Dilute HCl

Answer: A



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41. Which of the following is formed when acetonitrile is hydrolysed partially with cold conc HCl ? .

- A. Methyl cyanide
- B. Acetic anhydride
- C. Acetic acid

D. Acetamide

Answer: D



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42. The hormone that helps in the conversion of glucose into glycogen is:

A. Cortisone

B. bile acids

C. adrenaline

D. insulin

Answer: D



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43. Which one of the following is a chain growth polymer?

- A. Starch
- B. Nucleic acid
- C. Polystyrene
- D. Protein

Answer: C

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44. Which one of the following statements is not true ?

- A. Ampicillin is a natural antibiotic
- B. Aspirin is both analgesic and antipyretic
- C. sulphadiazine is a synthetic antibacterial drug
- D. Some disinfectants can be used as antiseptics

Answer: A

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45. Acidity of BF_3 can be explained on the basis of which of the following concepts?

- A. Arrhenius concept
- B. Bronsted Lowry concept
- C. Lewis concept
- D. Bronsted Lowry as well as Lewis concept

Answer: C



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