



CHEMISTRY

NTA MOCK TESTS ENGLISH

NTA NEET SET 82

Chemistry

1. In Langmuir's model of adsorption of a gas on a solid surface

A. the rate of dissociation of adsorbed molecules from the surface does not depend on the

surface covered

- B. the adsorption at a single on the surface may involve multiple molecules at the same time
- C. the mass of gas striking a given area of surface is proportional to the pressure to the gas
- D. the mass of gas striking a given area of surface is independent to the pressure to the gas

Answer: C



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2. Which of the following equation was suggested by de-Broglie?

A. $2\pi r = n\lambda$

B. $\lambda = \frac{\pi}{h}$

C. $\pi r^2 = n\lambda$

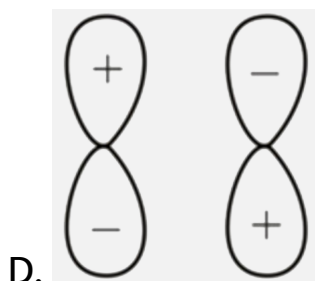
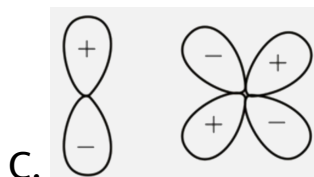
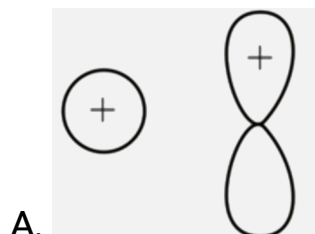
D. $2\pi r = \frac{nh}{\lambda}$

Answer: A



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3. Which of the following gives rise to the formation of bond ?



Answer: B



4. A metal oxide has the formula X_2O_3 . It can be reduced by hydrogen to give free metal and water. 0.1596g of metal oxide requires 6mg of hydrogen for complete reduction. The atomic mass of the metal (in amu) is:

A. 15.6

B. 155.8

C. 30.8

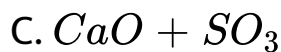
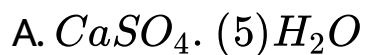
D. 55.8

Answer: D



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5. Gypsum on heating above 437 gives



Answer: D



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6. An alkene on reductive ozonolysis gives two products A and B . When these products are treated with conc. KOH one of these products gives an alcohol and an acid salt. Here the alkene can be

A. But -2- ene

B. Pent -2- ene

C. Isobutene

D. cyclo hexene

Answer: C



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7. A mixture contains N_2O_4 and NO_2 in the ratio 2:1 by volume. Calculate the vapour density of the mixture?

A. 45.4

B. 49.8

C. 32.6

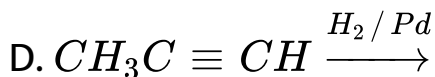
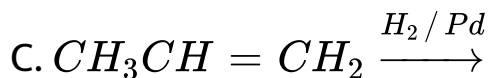
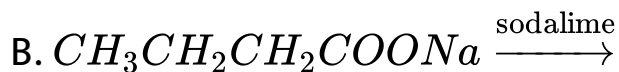
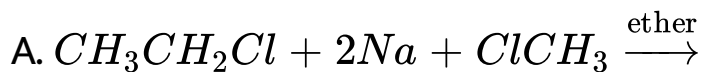
D. 38.3

Answer: D



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8. Which of the following reactions will not give propane ?



Answer: A



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9. The noble gas which form interstitial compound with metals is

A. He

B. Ne

C. Ar

D. Kr or Xe

Answer: A



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10. The distance between an octahedral and tetrahedral void in fcc lattice would be:

A. $\frac{\sqrt{3}a}{4}$

B. $\sqrt{3}a$

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

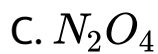
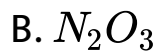
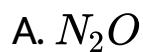
D. $\frac{\sqrt{3}a}{3}$

Answer: A



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11. which of the following is the anhydride of NHO_2 ?

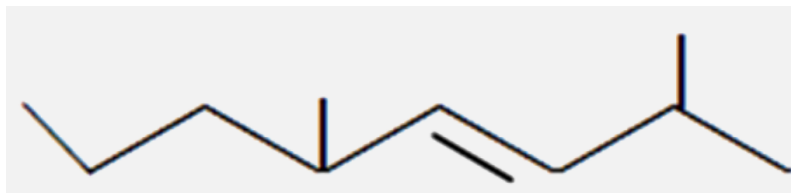


Answer: B



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12. How many secondary and tertiary C - atoms are present in this compound respectively ?



A. 4,2

B. 2,2

C. 2,1

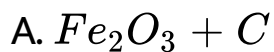
D. 3,2

Answer: B



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13. Which of the following processes evolve CO?



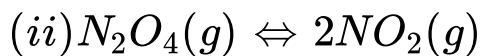


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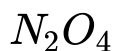
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14. Consider the reactions

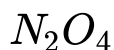


The addition of an inert gas at constant volume

A. will increase the dissociation of PCl_5 as well as



B. will reduce the dissociation of PCl_5 as well as



C. will increase the dissociation of PCl_5 and step

up the formation of N_2O_4

D. will not disturb the equilibrium of the reactions

Answer: D



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15. If equal volumes of $BaCl_2$ and NaF solutions are mixed, which of these combination will not give a precipitate? (K_{sp} of $BaF_2 = 1.7 \times 10^{-7}$).

A. 0.004 M $BaCl_2$ and 0.02 M NaF

B. 0.010 M $BaCl_2$ and 0.015 M NaF

C. 0.015M $BaCl_2$ and 0.010M NaF

D. 0.020M $BaCl_2$ and 0.002M NaF

Answer: D



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16. Which of the following reagents cannot be used to distinguish between phenol and benzyl alcohol ?

A. Br_2 / CCl_4

B. NaOH

C. $NaHCO_3$

D. $FeCl_3$ (neutral)

Answer: C

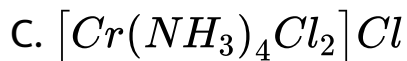


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17. Select the compound having maximum conductivity in aqueous medium.

A. $[Cr(NH_3)_6]Cl_3$

B. $[Cr(NH_3)_5Cl]Cl_2$



Answer: A



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18. An alkane by molecular weight 72 upon chlorination gives one monochlorination product. The alkane is

A. pentane

B. 2- methylbutane

C. 2,2- dimethylpropane

D. all the of the above

Answer: C



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19. Standard enthalpies of formation of O_3 , CO_2 , NH_3 and HI are 142.2 , - 393.2, -46.2 and +25.9 kJmol^{-1} respectively . The order of their increasing stabilities will be

A. O_3 , CO_2 , NH_3 , HI

B. CO_2 , NH_3 , HI , O_3

C. O_3 , HI , NH_3 , CO_2

D. NH_3 , HI , CO_2 , O_3

Answer: C



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20. An electrolytic cell contains a solution of Ag_2SO_4 and have platinum electrodes. A current is passed until 1.6gm of O_2 has been liberated at anode. The amount of silver deposited at cathode would be

A. 108 g

B. 1.6 g

C. 0.8 g

D. 21.60 g

Answer: D



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21. In which solvent NaCl has maximum solubility ?

A. H_2O

B. C_2H_5OH

C. CH_3COCH_3

D. $C_2H_5OC_2H_5$

Answer: A



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22. The ratio of magnetic of Fe (III) and Co (II) is :

A. $\sqrt{24} : \sqrt{15}$

B. $7 : 3$

C. $\sqrt{35} : \sqrt{15}$

D. $\sqrt{5} : \sqrt{7}$

Answer: C



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23. Acidified $KMnO_4$ can be decolourised by (a)_____.

A. bleaching powder

B. white vitriol

C. Mohr's salt

D. laughing gas

Answer: C



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24. The degree of dissociation of a weak electrolyte,

A_xB_y is related to van't Hoff factor by the expression

:

$$\text{A. } \alpha = \frac{i - 1}{x + y + 1}$$

$$\text{B. } \alpha = \frac{i - 1}{x + y - 1}$$

$$\text{C. } \alpha = \frac{x + y - 1}{i - 1}$$

$$\text{D. } \alpha = \frac{x + y + 1}{i - 1}$$

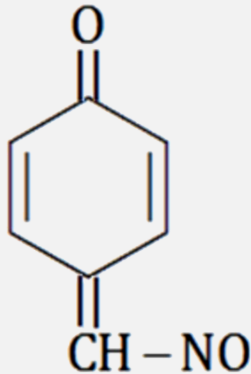
Answer: B



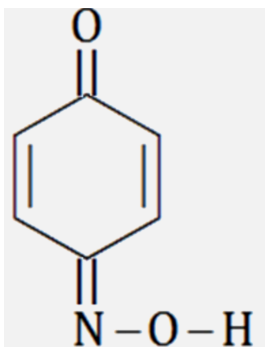
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25. Which of the following can show tautomerism here.

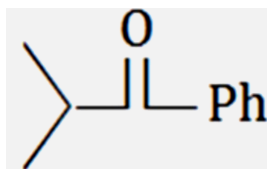
A.



B.



C.



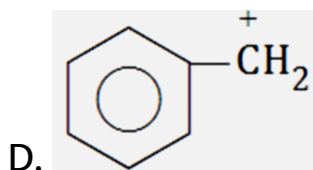
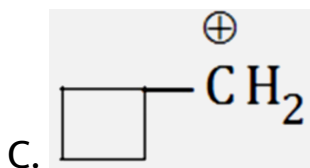
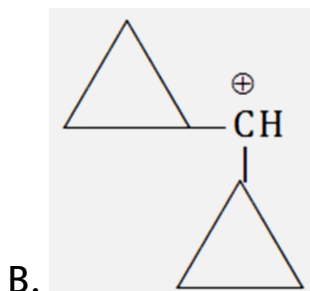
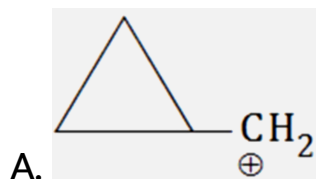
D. Both B and C

Answer: D



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26. Which of the following is the most stable carbocation here ?



Answer: B



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27. 1 mol of ice is converted to liquid at 273 K, $H_2O(s)$ and $H_2O(l)$ have entropies 38.20 and 60.03 $Jmol^{-1}K^{-1}$. Enthalpy changes in the conversion will be

A. 59.59 J/mol

B. 5959.59 J/mol

C. 595.959 J/mol

D. 5.959 J/mol

Answer: B



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28. The total number of N - atoms present in veronal is

A. 0

B. 1

C. 2

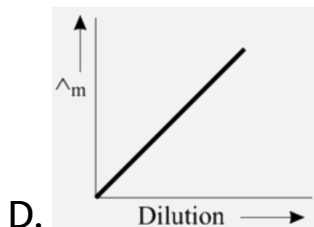
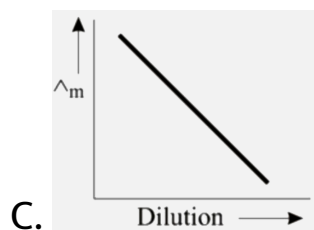
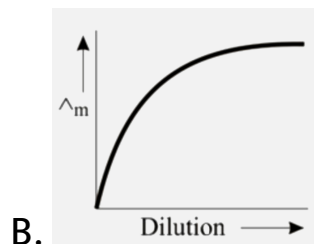
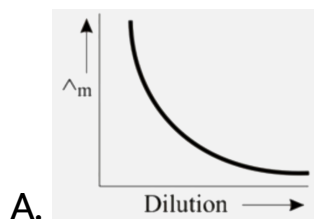
D. 3

Answer: C



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29. Which of the following graph correctly represents the variation of molar conductance (Δ_m) with dilution for a strong electrolyte ?



Answer: B



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30. The pH of the resultant solution of 20 mL of 0.1 M H_3PO_4 and 20 mL of 0.1 M Na_3PO_4 is :

A. pK_{a_1}

B. pK_{a_2}

C. $\frac{pK_{a_1} + pK_{a_2}}{2}$

D. 2

Answer: B



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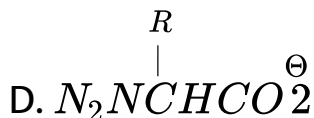
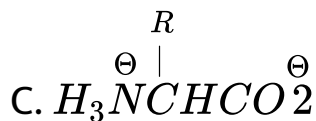
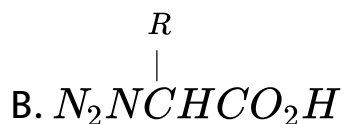
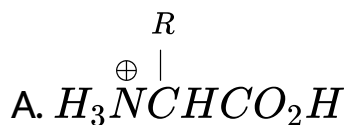
31. A polymer is resistant to heat and chemical attack and is also used for coating articles and cookwares to make them non - sticky. The monomer of this polymer is

- A. mono chlortifluoroethylene
- B. tetrafluoroethylene
- C. chloroprene
- D. vinyl chloride

Answer: B



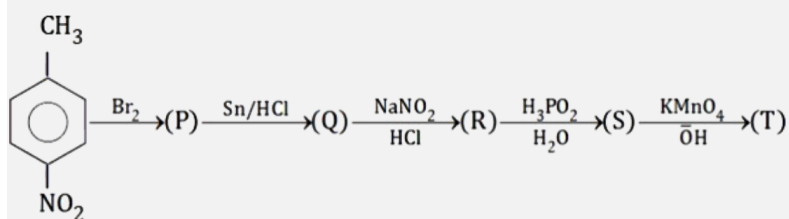
32. Assume that a particular amino acid has an isoelectric point of 6.0. In a solution at pH 1.0, which of the following species will predominate ?



Answer: A

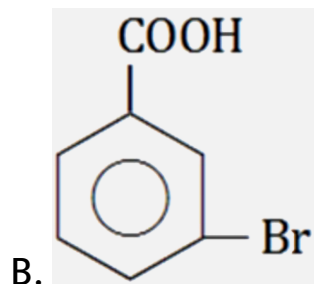
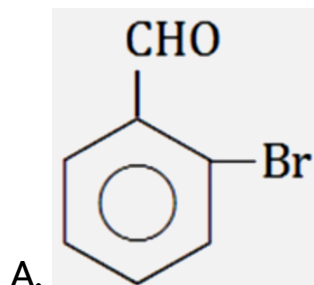


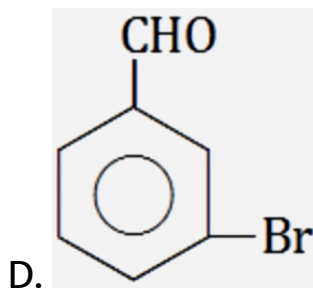
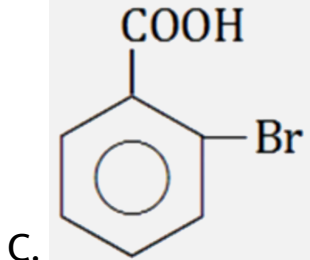
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33.

In this sequence of reaction the final product T is





Answer: C



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34. For the reaction , $2NH_3(g) \rightarrow N_2(g) + 3H_2(g)$

$$-\frac{d[NH_3]}{dt} = k_1[NH_3]$$

$$\frac{d[N_2]}{dt} = k_2[NH_3]$$

$$\frac{d[H_2]}{dt} = k_3[NH_3]$$

The relation between , k_1 , k_2 and k_3 may be given as

A. $1.5k_1 = 3k_2 = k_3$

B. $2k_1 = k_2 = 3k_3$

C. $k_1 = k_2 = k_3$

D. $k_1 = 3k_2 = 2k_3$

Answer: A



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35. An organic compound 'X' with molecular formula C_7H_8O is insoluble in aqueous $NaHCO_3$ but

dissolved in NaOH. When treated with bromine water 'X' rapidly give 'Y' (C_7H_5OBr). The compound 'X' and 'Y' respectively are

A. o - cresol

B. p - cresol

C. m - cresol

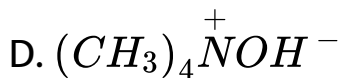
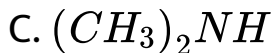
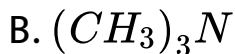
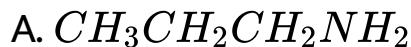
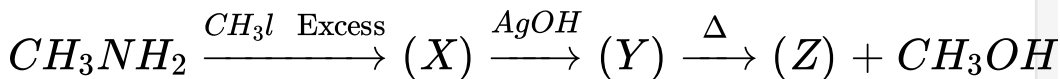
D. anisole

Answer: D



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36. Identify the final product (Z) in the following sequence of reactions.



Answer: B



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37. Dimethyl glyoxime forms a square planar complex with Ni^{2+} . This complex should be :

- A. diamagnetic
- B. paramagnetic having 1 unpaired electron
- C. paramagnetic having 2 unpaired
- D. ferromagnetic

Answer: A



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38. All aldehydes can be made to undergo the Cannizzaro reaction by treatment with aluminium ethoxide. Under these conditions, the acid and alcohol are combined to form an ester. The reaction is called

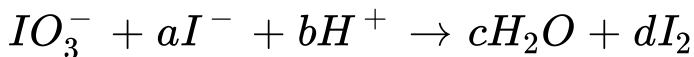
- A. Claisen reaction
- B. Perkin reaction
- C. Aldol condensation
- D. Tischenko reaction

Answer: D



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39. In the balanced chemical reaction,



a, b, c and d respectively correspond to -

A. 5,6,3,3

B. 5,3,6,3

C. 3,5,3,6

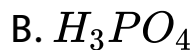
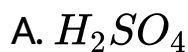
D. 5,6,5,6

Answer: A



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40. Fe is made passive by :



Answer: D



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41. In a metal oxide , the oxide ions are arranged in hexagonal close packing and metal ions occupy two - third of the octahedral voids .The formula of the oxide is

A. MO

B. M_2O_3

C. MO_2

D. M_2O

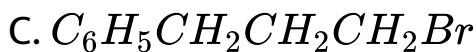
Answer: B



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42. Which of the following will be the major product when 3 - phenylpropene reacts with HBr?

A. $C_6H_5CH_2CHBrCH_3$



Answer: D



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43. One gram of hydrogen and 112 g of nitrogen are enclosed in two separate containers each of volume 5 L and at $27^\circ C$. If the pressure of the hydrogen is 1 atm, then the pressure of nitrogen would be

A. 16 atm

B. 12 atm

C. 8 atm

D. 4 atm

Answer: C



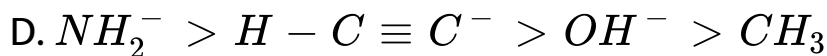
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44. What is the decreasing order of strength of the bases?

OH^- , NH_2^- , $H - C \equiv C^-$ and $CH_3 - CH_2^-$?

A. $CH_3^- > NH_2^- > H - C \equiv C^- > OH^-$

B. $H - C \equiv C^- > CH_3^- > NH_2^- > OH^-$

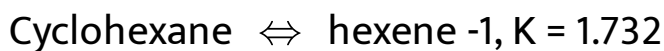


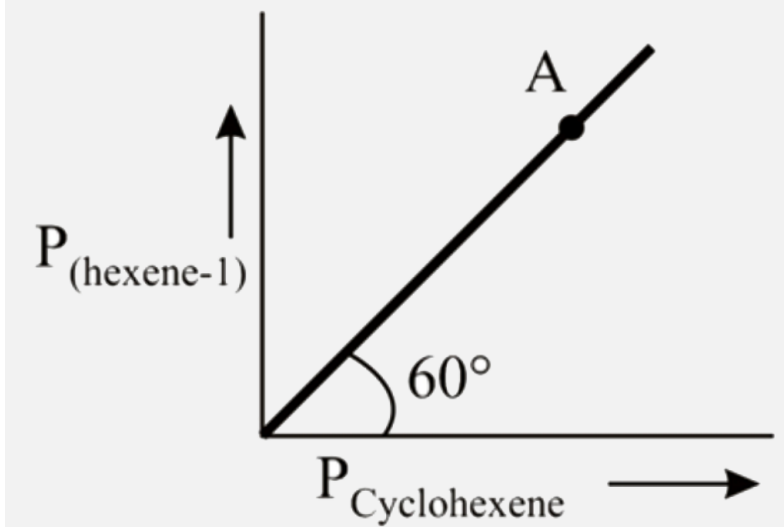
Answer: A



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45. For the following isomerisation reaction





Which of the following statements holds good at point 'A' ?

- A. $Q > K$
- B. $Q < K$
- C. $Q = K = 1$
- D. $Q = K = 1.732$

Answer: D



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