



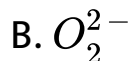
CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA TPC JEE MAIN TEST 108

Chemistry Single Choice

1. Which of the following species is paramagnetic ?



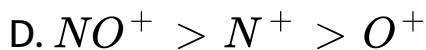


Answer: A



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2. The correct order of electron affinity (EA) is



Answer: A

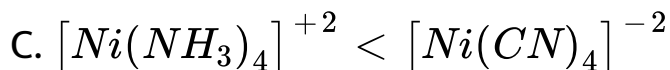


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3. Which of the following is correct order of stability?



B.

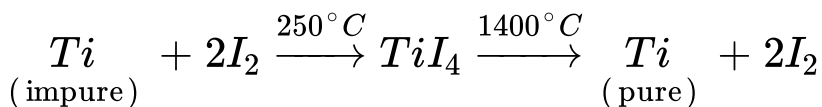


D. All

Answer: D



4. Which process of purification is represented by the following series of reaction:



- A. Cupellation
- B. Polling
- C. Van Arkel process
- D. Zone refining

Answer: C



5. The least value of the first ionization energy of group 14 elements is shown by:

A. Si

B. Ge

C. Sn

D. Pb

Answer: D



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6. The atomic numbers of elements X, Y and Z are 19, 21 and 25 respectively. The number of electrons present in the M-shell of these elements follows the order :

A. $Z > X > Y$

B. $X > Y > Z$

C. $Z > Y > X$

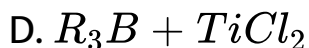
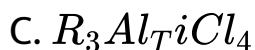
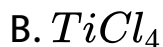
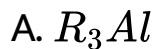
D. $Y > Z > X$

Answer: C



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7. Ziegler natta catalyst is :-



Answer: C

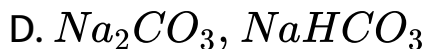
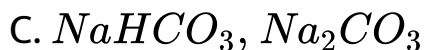
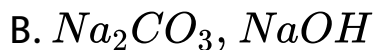
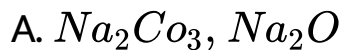


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8. when sodium salt (x) is heated, CO₂ gas along with solid (Y) is obtained. (X) is again obtained when CO₂

gas is passed in to aqueous solution of (Y). (X) and (Y)

are:

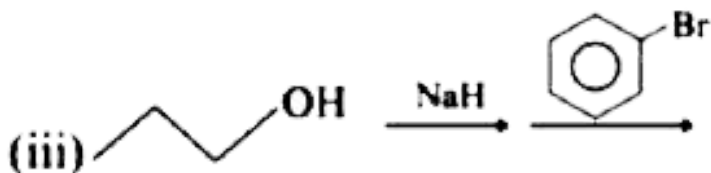
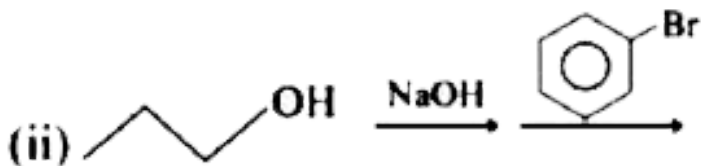
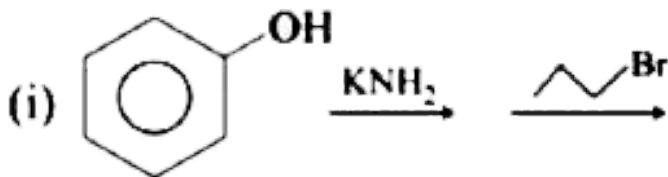


Answer: C



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9. Which of the following reaction gives phenylpropyl ether.



A. i only

B. ii only

C. ii and iii

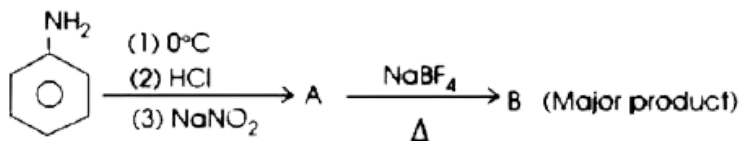
D. i and iii

Answer: A



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10. Determine A and B from the following road map reaction:



- A. C_6H_5OH , $C_6H_5BF_3$
- B. $C_6H_5N_2Cl$ and C_6H_5F
- C. $C_6H_5N_2Cl$ and C_6H_5OH
- D. $C_6H_5N_2Cl$ and C_6H_5OH

Answer: B



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11. Which of the following is an example of Vitamin?

A. Adipic acid

B. Palmitic acid

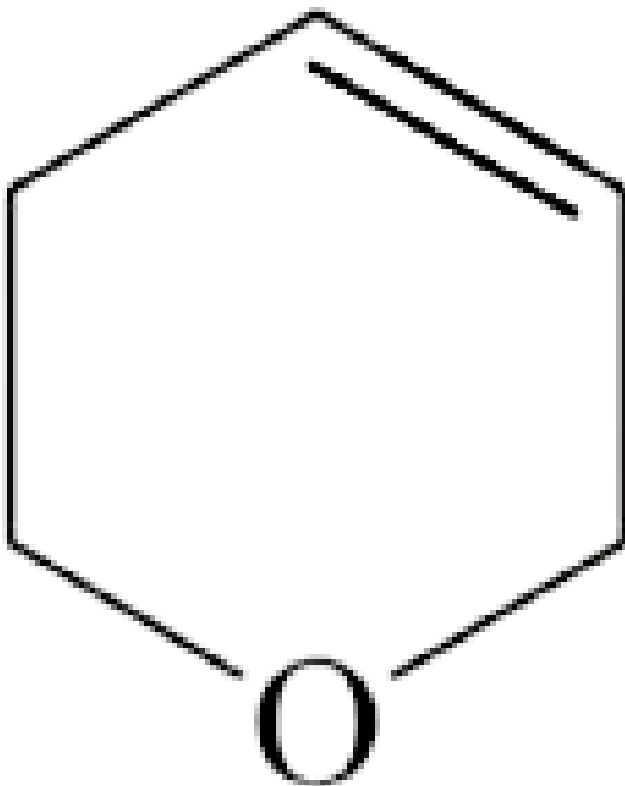
C. Ascorbic acid

D. Cinnamic acid

Answer: C



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12.

does not form cyclic product when reacts with

A. Cl_2 / CCl_4

B. HCl

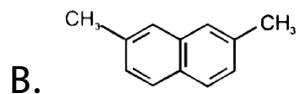
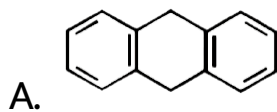
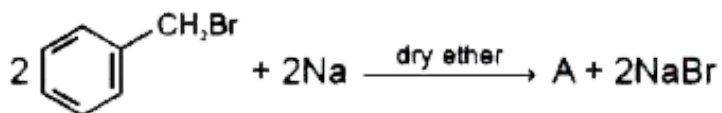
C. H_2 / Ni

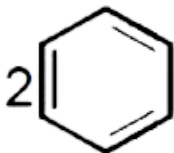
D. Br_2 / CS_2

Answer: B

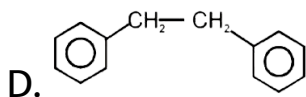
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13. The product A formed in the reaction is:





C.

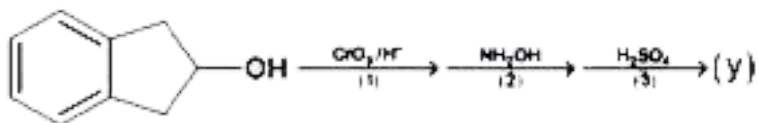


D.

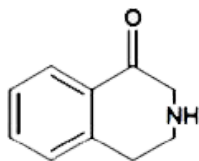
Answer: D

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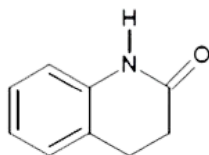
14. Major product of the following sequence of reactions could be :



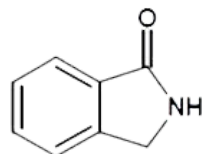
A.



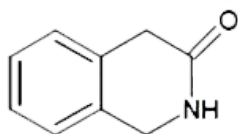
B.



C.



D.

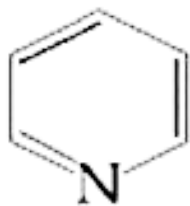


Answer: D

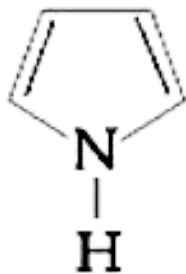


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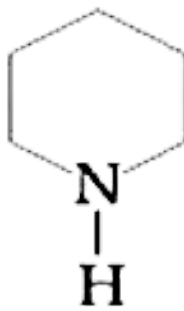
15. What is the correct decreasing order of basicity of following amines?



I



II



III

A. $III > I > II$

B. $I > III > II$

C. $III > II > I$

D. $I > II > III$

Answer: A

16. Which of the following relation is true, if:

Equal amount of charge of electricity in coulomb is passed through aqueous solution of AX and BX_2 .

Number of moles of A and B deposited respectively are Y and Z.

A. $Y=Z$

B. $YgtZ$

C. $Z=2Y$

D. $Y=2Z$

Answer: D



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17. Select the correct effect on the freezing point, when the aqueous solution of potassium iodide is added to mercuric iodide.

- A. Freezing point is raised.
- B. Freezing point is lowered
- C. Freezing point does not change.
- D. Boiling point does not change

Answer: A



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18. At NTP, 10 litre of hydrogen sulphide gas reacted with 10 litre of sulphur dioxide gas. The volume of gas, after the reaction is complete, would be:

A. 5 litre

B. 10 litre

C. 15 litre

D. 20 litre

Answer: A



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19. When solid lead iodide is added to water the equilibrium concentration of I^- in saturated solution becomes $2.6 \times 10^{-3} M$. What is k_{sp} of PbI_2 ?

A. 2.2×10^{-9}

B. 8.8×10^{-9}

C. 1.8×10^{-8}

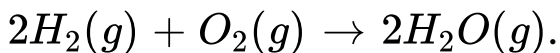
D. 3.5×10^{-8}

Answer: B



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20. Find the value of ΔS of the following reaction.



Given, ΔH and ΔG are $-241.60 \text{ kJ mol}^{-1}$ and $-228.40 \text{ kJ mol}^{-1}$ of H_2O at 300 K.

A. 4.4 kJ

B. -88 kJ

C. $+88 \text{ kJ}$

D. -44 kJ

Answer: B



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Chemistry Subjective Numerical

1. The number of electrons in π^* molecular orbitals in O_2^{2-} ion on the basis of molecular orbital theory is



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2. The number of electrons in the p- orbitals of valence shell for group 14 elements is



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3. The reagent(s) which can be used to distinguish acetophenone from benzophenone is/are

I_2 and $NaOH$

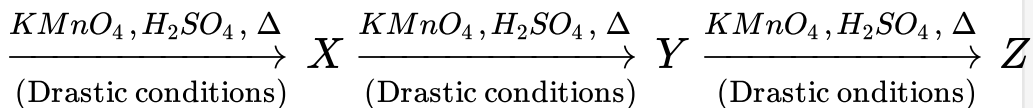
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4. How many dehydrohalogenation products (including isomers) are possible for 2-chloro-2-cyclohexane?

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5.



Count of carbon atoms that will be present in the final product 'Z' is

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6. The value of $[H^+]$ in $0.01 \text{ mol } dm^{-3} CH_3COOH$ solution is $10^{-4} \text{ moldm}^{-3}$

$$\left(\sqrt{K_a} = 4.17 \times 10^{-3} \right)$$



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7. 100 mL of a colloidal solution is completely precipitated by addition of 5 mL of 1 M NaCl solution. Calculate the coagulation value of NaCl.



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8. Consider the given below arrangement of spheres in two dimensions. The ratio of coordination number of each sphere in arrangement (I) to coordination

number of each sphere in arrangement (II) is



(I)



(II)

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9. How many of the following subshells are NOT possible?

$2p, 6f, 5d, 3s, 1p, 3f, 4d, 7s, 2d$

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10. The rate of decomposition of the sample of a gas under high temperature and pressure was 0.50 atm s^{-1} when 15 % had decomposed and 0.25 atm s^{-1} when 40% had decomposed. The order of the reaction is..... $[\sqrt{2} = 1.417]$



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