



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA JEE MOCK TEST 81

Chemistry

1. In an atom, two electrons move around nucleus in circular orbits of radii (R) and ($4R$) . The ratio of the time taken by them to complete one revolution is :

A. 1 : 4

B. 4 : 1

C. 1 : 8

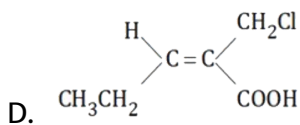
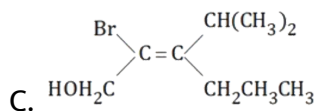
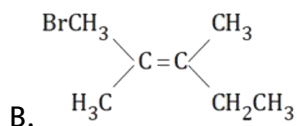
D. 8 : 1

Answer: C

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2. Select the Z - isomer from the following alkenes

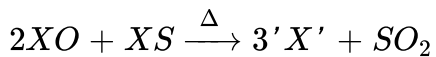
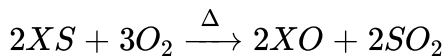
A. 



Answer: C

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3. Consider the following reactions :



Then 'X' can not be :

A. *Hg*

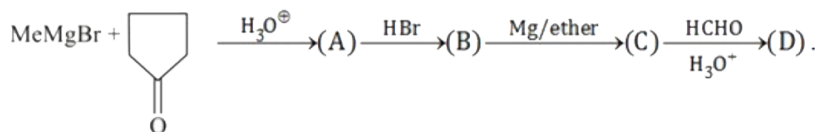
B. *Pb*

C. *Zn*

D. *Cu*

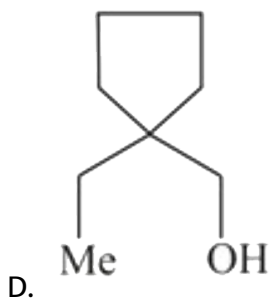
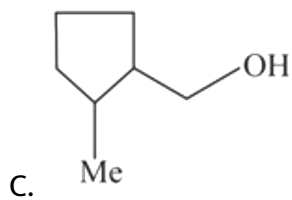
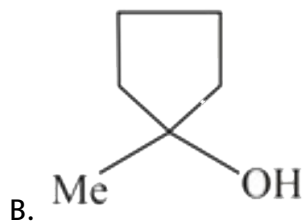
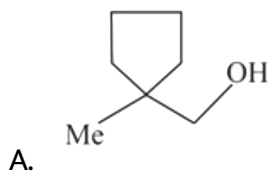
Answer: B

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4.

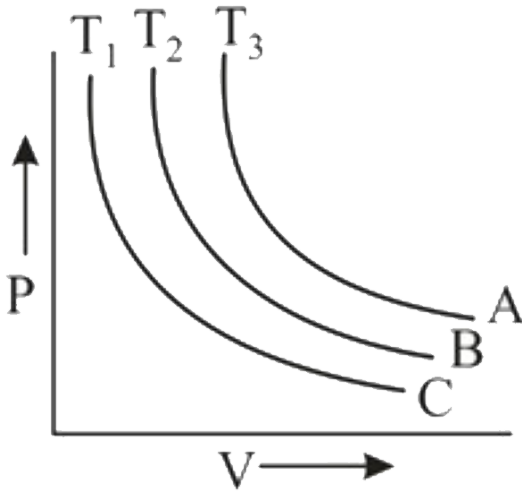
D is



Answer: A

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5. Three isothermal plots (P versus V) A, B and C are plotted at three temperature T_1 , T_2 and T_3 respectively



The correct order of the temperature will be

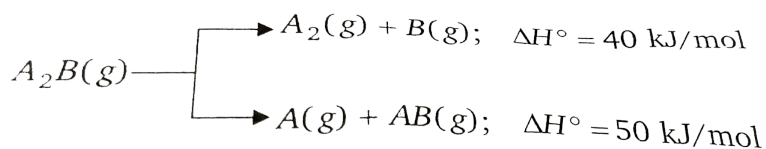
- A. $T_1 < T_2 < T_3$
- B. $T_1 = T_2 = T_3$
- C. $T_1 > T_2 > T_3$
- D. $T_1 > T_2 < T_3$

Answer: A



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6. Substance $A_2B(g)$ can undergoes decomposition to form two set of products :



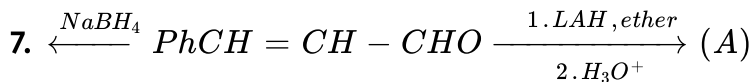
If the molar ratio of $A_2(g)$ to $A(g)$ is 5:3 in a set of product gases, then the energy involved in the decomposition of 1 mole of $A_2B(g)$ is :

- A. 48.75 kJ/mol
- B. 43.75 kJ/mol
- C. 46.25 kJ/mol
- D. 64.2 kJ/mol

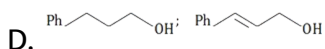
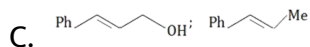
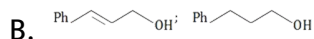
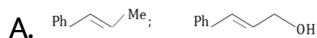
Answer: B



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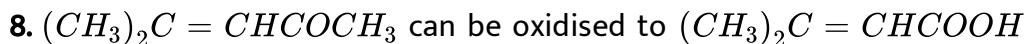


The products (A) and (B) are:



Answer: D

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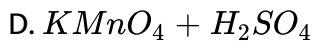


by

A. chromic acid

B. NaOI, followed by acidification

C. Cu at 573 K



Answer: B

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9. Pick out the incorrect statement.

A. Mg also burns in gases such as CO_2 and SO_2

B. Excess of CO_2 when passed in lime-water turns it milky

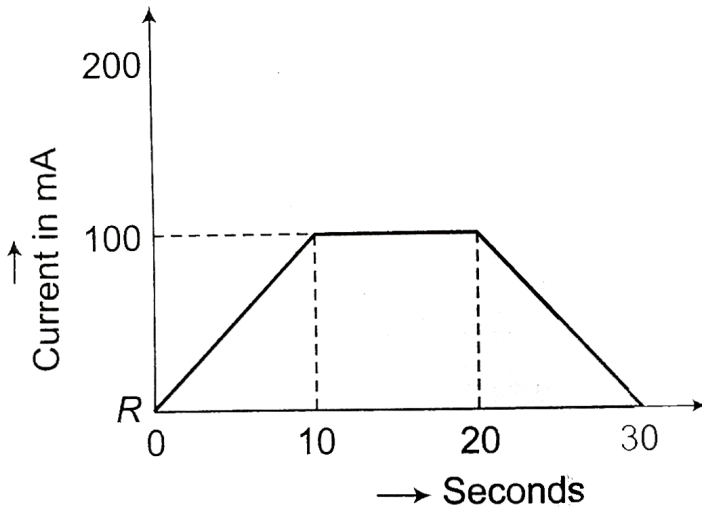
C. $MgCl_2 \cdot 6H_2O$ on heating hydrolyses to form MgO (magnesia),
which is refractory

D. Alkaline-earth metals are denser and harder than alkali metals

Answer: B

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10. In a copper voltmeter, mass deposited in 30 seconds is ' m ' gram. If the time-current graph is as shown in figure. ECE of copper is



A. $Z = m$

B. $Z = \frac{m}{2}$

C. $Z = \frac{m}{5}$

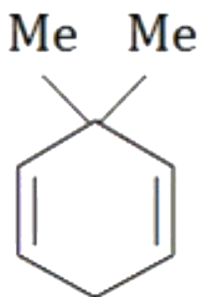
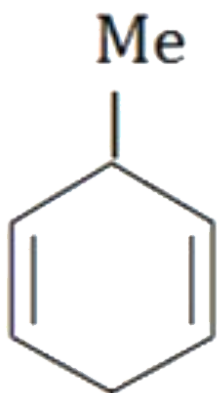
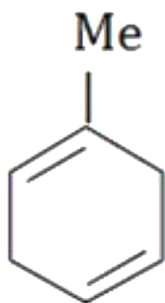
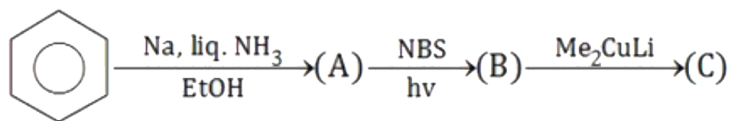
D. $Z = 2m$

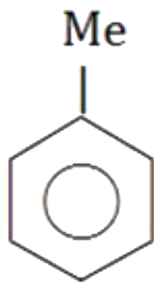
Answer: B



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11. The final product C in the following reaction is





D.

Answer: B

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12. 0.2 gm sample of benzoic acid C_6H_5COOH is titrated with 0.12 M $Ba(OH)_2$ solution, what volume of $Ba(OH)_2$ solution is required to reach the equivalent point ?

A. 6.83 mL

B. 13.6 mL

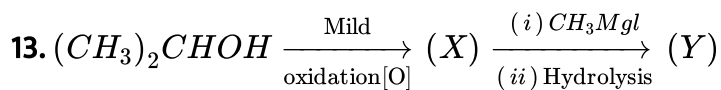
C. 17.6 mL

D. 35.2 mL

Answer: A



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In the above sequence of reaction, (Y) is:

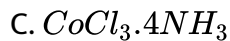
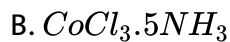
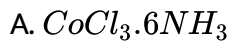
- A. Isobutyl alcohol
- B. n - Butyl alcohol
- C. Tertiary butyl alcohol
- D. Isobutylene

Answer: C



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14. Which of the following compound will given yellow precipitate on shaking with aqueous solution of NaOH followed by the addition of $AgNO_3$ solution ?

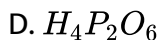
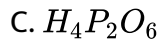
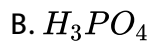
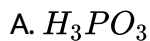


D. All of the above

Answer: D

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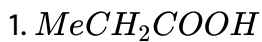
15. Which of the following oxyacids acts as most reducing agent?



Answer: A

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16. Consider the following acids



Correct order of the rate of esterification of these acids with $MeOH$ is

A. $1 > 2 > 3 > 4$

B. $2 > 1 > 3 > 4$

C. $2 > 3 > 4 > 1$

D. $2 > 3 > 1 > 4$

Answer: A



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17. The plot of $\frac{1}{Y_A}$ Vs $\frac{1}{x_A}$ ($\frac{1}{Y_A}$ on y - axis) where A and B form an ideal solution. Y is mole fraction in vapour phase and X is mole fraction in liquid phase, is linear with slope and intercept respectively

A. $\frac{P_A^0}{P_B^0}$ and $\frac{P_A^0 - P_B^0}{P_B^0}$

B. $\frac{P_A^0}{P_B^0}$ and $\frac{P_B^0 - P_A^0}{P_B^0}$

C. $\frac{P_B^0}{P_A^0}$ and $\frac{P_A^0 - P_B^0}{P_A^0}$

D. $\frac{P_B^0}{P_A^0}$ and $\frac{P_B^0 - P_A^0}{P_B^0}$

Answer: C



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18. The transition elements are more metallic than p - block elements because they have

A. Electron pairs in d- orbitals

B. Availability of d - orbitals for bonding

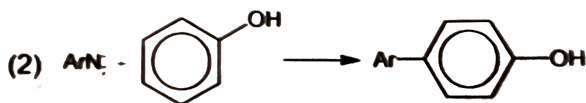
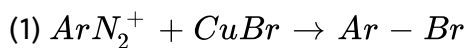
C. The electron in p - orbitals

D. Unpaired electron in metallic orbitals

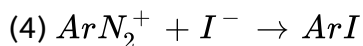
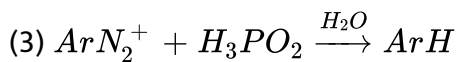
Answer: B

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19. Which of the following reaction are possible ?



(2)



Select the answer using codes given below:

A. 1, 2 and 4

B. 1, 3 and 4

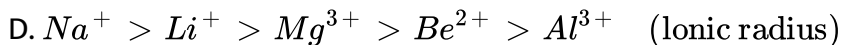
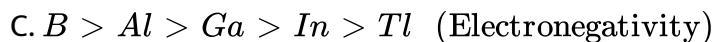
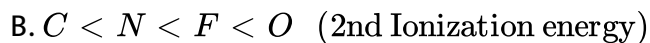
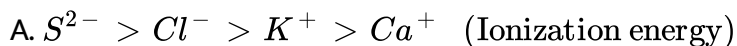
C. 1, 2 and 3

D. 2, 3 and 4

Answer: B

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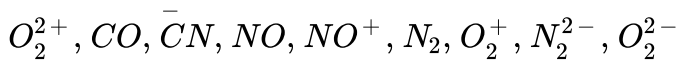
20. Which of the following order is correct for the property mentioned in brackets?



Answer: B

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21. How many of these molecules are diamagnetic and have bond order more than 2



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22. $\frac{x}{20}M$ concentration of H^+ ion must be maintained in a saturated $H_2S(0.1M)$ to precipitates CdS but not ZnS , if

$$[Cd^{2+}] = [Zn^{2+}] = 0.1M \text{ initially.}$$

$$K_{sp}(CdS) = 8 \times 10^{-27}, K_{sp}(ZnS) = 1 \times 10^{-21} K_a(H_2S) = 1 \times 10^{-21} Zn^{2+}$$

will not precipitate at concentration of H^+ greater than $\frac{x}{20}M$. The

value of x is .

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How many moles of HI consumed in above reaction?

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24. How many compound gives positive Tollens' test?

1. D - glucose

2. D - fructose

3. $\text{CH}_3\overset{\text{O}}{\parallel}\text{CH}$

4. PhCH_2OH

6. HCOOH

7. CH_3COOH

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25. The edge length of a face centred cubic cell of an ionic substance is 508 pm .If the radius of the cation is 110 pm the radius of the anion is



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