



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA TPC JEE MAIN TEST 112

Chemistry

1. According to Fajan's rule ionic character increases for

- A. Large cation and small anion
- B. Small cation and small charge on cation
- C. Small cation and large charge on cation
- D. Large cation and no charge on cation

Answer: A



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2. Find the correct order of electron gain enthalpy ($\Delta_{eg}H$) of the given elements

A. $O > B > C > N$

B. $O > C > N > B$

C. $O > C > B > N$

D. $O > N > C > B$

Answer: C



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3. Which kind of isomers is exhibited by octahedral $[Co(NH_3)_4Br_2]Cl$?

- A. Geometrical and ionisation
- B. Geometrical and optical
- C. optical and ionisation
- D. Geometrical only

Answer: A



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4. Which process is used to extract Ag from commercial lead?

- A. Parke's process
- B. Clarke's process

C. Kroll's process

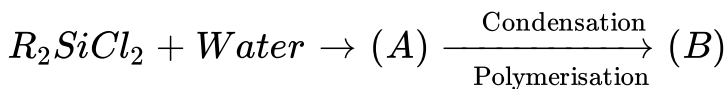
D. Electrolytic process

Answer: A



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5. Consider the following route of reactions:



Compound(B) in above reaction is

A. Dimer silicone

B. Linear silicone

C. Cross linked silicone

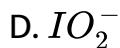
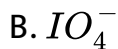
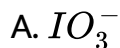
D. Polymerisation of (A) does not occur

Answer: B



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6. On addition of I^- with MnO_4^- in presence of acidic medium it convert into

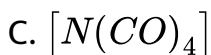
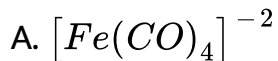


Answer: C



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7. Which shows maximum M-C bond strength:



Answer: A



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8. Among the following statements which is the incorrect statement?

A. CaO absorbs CO_2 and violently reacts with water.

B. Sodium amalgam reacts with hot water and gives NaOH

with the liberation of H_2

C. KO_2 absorbs CO_2 and releases CO.

D. Gypsum, on heating at 393 K, gives calcium sulphate

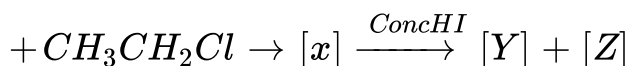
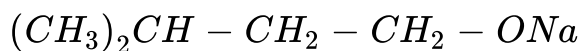
hemihydrate (Plaster of Paris)

Answer: C

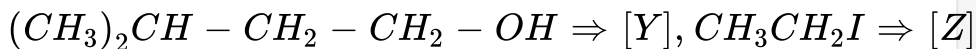


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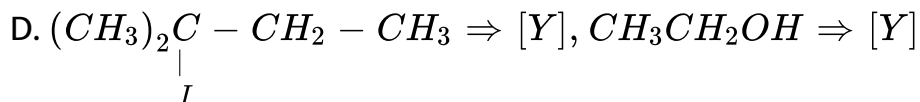
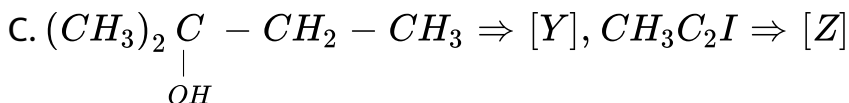
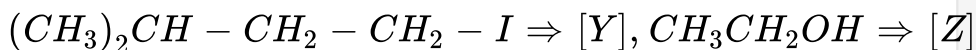
9. Product Y and Z respectively in the following reaction sequence



A.



B.

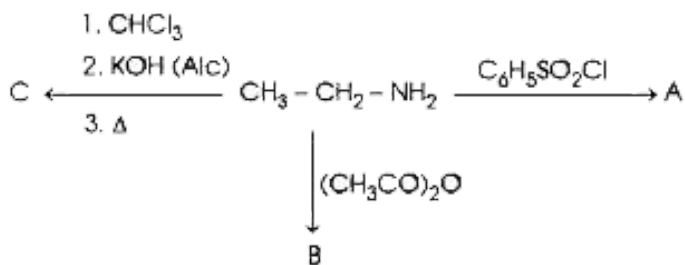


Answer: A

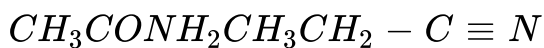


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10. Find the products A,B and C of the following reaction respectively.



A. Formed solid A is insoluble in NaOH



B. No solid is formed



C. Formed solid A is soluble in NaOH



D. Formed solid A is soluble in NaOH



Answer: D



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11. Enzymes are generally considered as

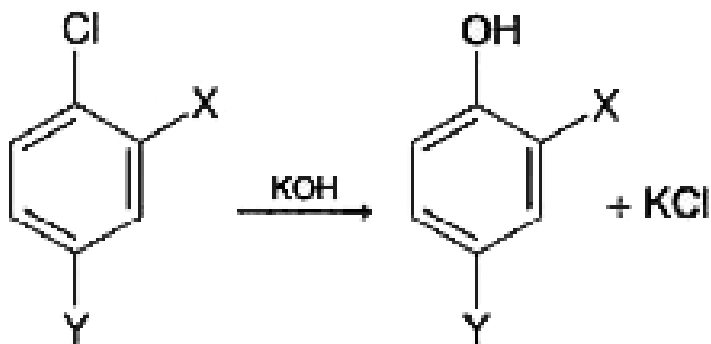
- A. Proteins
- B. Minerals
- C. Oils
- D. Fatty acids

Answer: A



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12. For maximum rate of the reaction X and Y will be?



A. $X = CH_3$ and $Y = OCH_3$

B. $X = NO_2$ and $Y = NH_2$

C. $X = NO_2$ and $Y = NO_2$

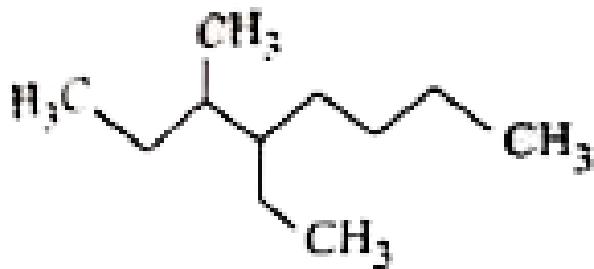
D. $X = NH_2$ and $Y = OCH_3$

Answer: C



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13. What will be the IUPAC name of the given compound?



- A. 2,3-dimethylheptane
- B. 3-methyl-4-ethyloctane
- C. 5-ethyl-6-methyloctane
- D. 4-ethyl-3-methyloctane

Answer: D



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14. What is the value of ΔS° at $25^\circ C$ if the voltage of a certain cell at $25^\circ C$ and $20^\circ C$ are 0.3525 and 0.3533 V, respectively and the number of electron exchange in the overall reaction is 2.

- A. $30.88JK^{-1}$
- B. $60.11JK^{-1}$
- C. $-30.88JK^{-1}$
- D. $-60.11JK^{-1}$

Answer: C



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15. Calculate the molar mass of the substance if a 5.25% solution of the substance is isotonic with 1.5% solution of urea(molar

mas = 60mol^{-1}) in the same solvent. Assuming the densities of both the solutions is equal to 1.0gcm^{-3}

A. 210.0gmol^{-1}

B. 90.0gmol^{-1}

C. 115.0gmol^{-1}

D. 105.0gmol^{-1}

Answer: A



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16. 1.6g of a trivalent metal were dissolved in HNO_3 to form its nitrate. If the nitrate on heating produces 2.4 g of metal oxide then atomic mass of metal is

A. 0.16

B. 0.48

C. 24

D. 31

Answer: B



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17. Consider the following salts. Which one(s) when dissolved in water will produce an acidic solution?

1. NH_4Cl

2. $KHSO_4$

3. $NaCN$

4. KNO_3

A. 2 and 3

B. 1 and 2

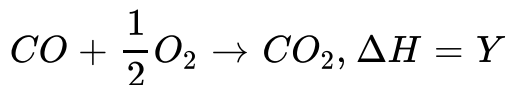
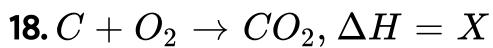
C. only 3

D. 2 and 4

Answer: B



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What is the heat of formation of CO?

A. $X - Y$

B. $Y - 2X$

C. $X + Y$

D. $2X - Y$

Answer: A

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19. The number of lone pairs of electrons on the central atom in XeF_4 is

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20. Preparation of diborane involves the oxidation of sodium borohydride with iodine. How many moles of diborane will be obtained from 10 moles of sodium borohydride?

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21. How many of the following are NOT dicarboxylic acids?

i. Oxalic acid ii. Adipic acid

iii. Phthalic acid iv. Lactic acid v. Succinic acid vi. Malonic acid

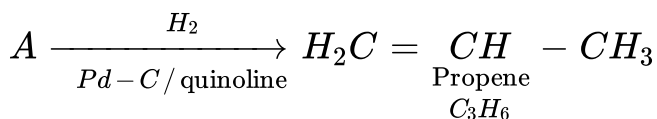
vi. Benzoic acidviii n-Valeric acid



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22. How many sp hybridized C-atoms is/are present in reactant

A?



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23. The number of dibromo derivatives that can be obtained from cyclobutane are:

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24. How many of the following salts when dissolved in H_2O show neutral behaviour?

KCl , $NaNO_3$, CH_3COONa ,

K_2SO_4 , $NaCN$, NH_4Cl

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25. How many of the following features are CORRECT regarding physisorption?

i. Highly specific in nature.

ii. Heat of adsorption is low.

iii. Favoured at low temperature

iv Reversible in nature.

v. Forms monomolecular layer of adsorbed particles.



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26. The ionic radii of A^+ and B^- ions are $0.98 \times 10^{-10}m$ and $1.81 \times 10^{-10}m$ respectively. The coordination number of each ion in an ionic solid having formula AB is



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27. What is the total number of electrons that can be accommodated in an orbital with $m_l = +2$?



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28. The conversion of $A + B \rightarrow C$ follows second order kinetics in each A and B. Doubling the concentration of both A and B will

increase the rate of reaction by a factor of



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