



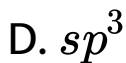
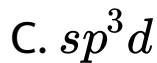
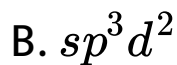
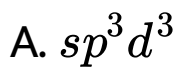
CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA TPC JEE MAIN TEST 102

Chemistry

1. What is the state of hybridisation of Xe in cationic part of solid CeF_6 ?



Answer: B



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2. Consider the following statements :

(a) Pb reacts with dil. HNO_3 produces $NO_{(g)}$

(b) SO_3 in solid state exists as cyclic tetramer

BrO_4^- is stronger oxidising agent than CrO_4^{2-}

Incorrect statement among the following is/are

- A. (a) only
- B. (b) and (c)
- C. (b) only
- D. All are incorrect

Answer: C



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3. An octahedral complex having $t_{2g}^6 e_g^0$ configuration then correct for this complex is :

A. Complex has $P > \Delta_0$

B. Complex has $P < \Delta_0$

C. Complex form in presence of weak ligand

D. Both B and C

Answer: B



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4. Which among the following statements is incorrect?

A. HgCl_2 is prepared by heating mercury in chlorine.

B. HgO decomposes on heating whereas Al_2O_3 has high thermal stability.

C. Mac-Aurthor's process is used to extract platinum.

D. NO undergoes

disproportionation reaction under

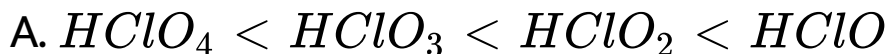
alkaline medium.

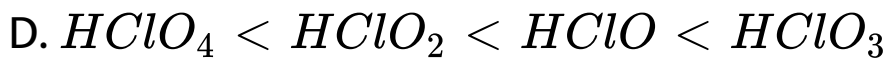
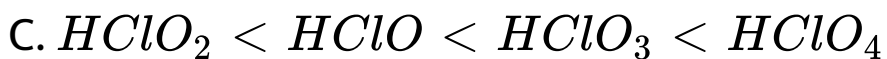
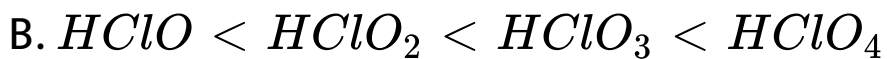
Answer: C



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5. Among the following the correct order of acidic strength is :





Answer: B

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6. Thallium shows different oxidation states because

A. of inert pair effect

B. it is highly reactive

C. it is transition element

D. it is amphoteric

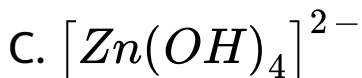
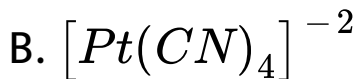
Answer: A



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7. Which of the following is square planar and paramagnetic complex?





Answer: D



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8. Among alkaline earth metals, the element majorly forming covalent compounds is:

A. Be

B. Mg

C. Sr

D. Ca

Answer: A



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9. Benzoic acid may be converted to ethyl benzoate by reaction with :-

A. Sodium methoxide

B. Ethyl chloride

C. Dry $HCl - C_2H_5OH$

D. C_3H_7OH

Answer: C



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10. Which of the following acts as a chain transfer agent?

A. Phenol

B. Amines

C. Quinone

D. CCl_4

Answer: D



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11. Which is the incorrect statement about polysaccharides?

A. Cellulose is found exclusively in plants

B. Cellulose is a straight chain polysaccharide, composed only of $\beta - D -$ glucose units.

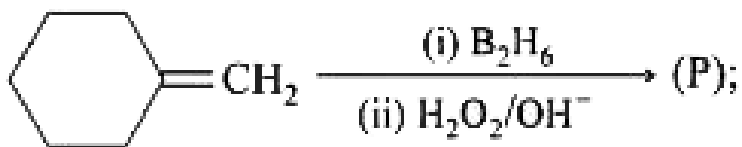
C. Starch is polymer of $\beta - D -$ glucose units.

D. Amylase is the water insoluble component of starch

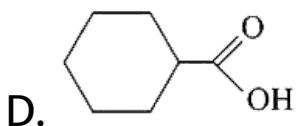
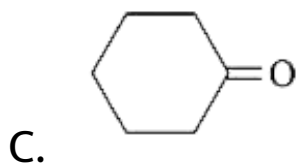
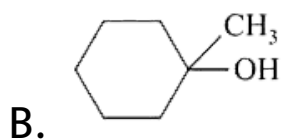
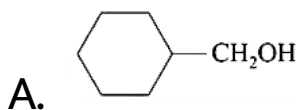
Answer: D



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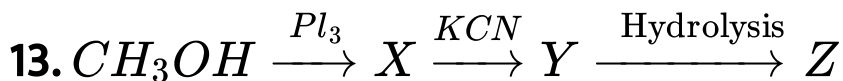
Product (P) in the reaction is :



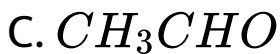
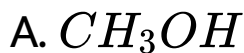
Answer: A



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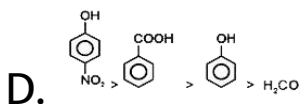
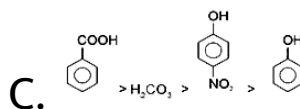
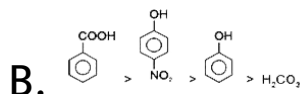
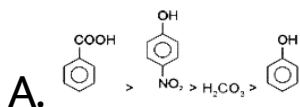
The final product in the reaction is :



Answer: D



14. Identify the correct acid strength.



Answer: C



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15. Value of λ_m^0 and λ_m

for $0.04MCH_3COOH$ is 290 and 7.8 respectively at $25^\circ C$. What is the value $pK_b(CH_3COO^-)$ at that temperature?

A. 9.3

B. 9.2

C. 4.7

D. 4.8

Answer: B



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16. Take two solutions of glucose. When 1 L of the first solution is mixed with V L of the second solution, the osmotic pressure of the resultant solution becomes 2.5 atm. Find the volume of the second solution if two solutions have osmotic pressures as 1.0 and 3.5 atm, respectively.

A. $1.0L$

B. $1.5L$

C. $2.5L$

D. $3.5L$

Answer: B



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17. 6×10^{20} molecules of CO_2 are removed from 220 milligram of CO_2 . What are the remaining moles of CO_2 ?

A. 4×10^{-3} mole

B. 5×10^{-3} mole

C. 2×10^{-3} mole

D. 6×10^{-3} mole

Answer: A



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18. For the reaction



is equal to :

A. 1.0

B. RT

C. \sqrt{RT}

D. $1 / RT$

Answer: D



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19. The relation between Gibbs free energy (G), enthalpy (H) and entropy (S) is:

A. $G = H + TS$

B. $G - TS = H$

C. $G - TS = H$

D. $G = S = H$

Answer: B



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20. The number of electrons present in valence shell of I in IF_7 is _____



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21. The atomic numbers of some elements are given below:

11, 15, 20, 27, 31, 35, 38, 48, 49, 52 From the above, the number of elements that belongs to p-block is _____ .

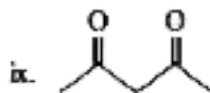
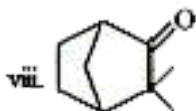
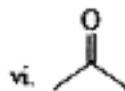
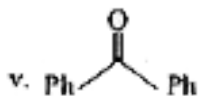
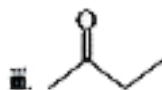
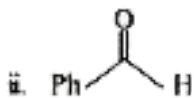
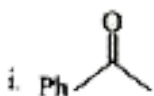
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22. Glucose on prolonged heating with HI gives compound 'Y'. The number of chiral

carbon atoms in 'Y' is _____ .

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23. How many of the following compounds exhibit tautomerism ?



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24. If the equilibrium constant of the reaction,
 $2XY_{(g)} \rightleftharpoons X_{2(g)} + Y_{2(g)}$ is 0.4 at 300 K,
the equilibrium constant of the reaction
 $X_{2(g)} + Y_{2(g)} \rightleftharpoons 2XY_{(g)}$ will be _____.



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25. 0.35g of starch is added to 700 ml of the standard gold solution before adding 1 ml of 10% NaCl solution just prevented it from

coagulation. Calculate the gold number of a solution.



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26. How many lattice points are there in one unit cell of fcc lattice?



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27. If the de Broglie wavelength of the electron in n^{th} Bohr orbit in a hydrogen like species is

equal to $1.5 a_0$ (a_0 is Bohr radius), then the value of the electron is.



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28. For every 10 degree rise in temperature, the rate of a reaction increases by a factor of _____.



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