



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA TPC JEE MAIN TEST 38

Chemistry

1. Which of the following molecule is paramagnetic?

A. N_2

B. O_3

C. CO

D. NO

Answer: D



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2. The ionization enthalpy of Hydrogen atom is $1.312 \times 10^6 \text{ Jmol}^{-1}$. The energy required to

excite the electron in the atom from $n = 1$ to $n = 2$ is :

A. $8.51 \times 10^5 \text{ Jmol}^{-1}$

B. $6.56 \times 10^5 \text{ Jmol}^{-1}$

C. $7.56 \times 10^5 \text{ Jmol}^{-1}$

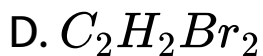
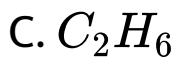
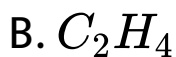
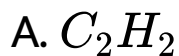
D. $9.84 \times 10^5 \text{ Jmol}^{-1}$

Answer: D



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3. The longest C-H bond is observed in:



Answer: C



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4. Which of the following compounds is used as a collector in the froth - flotation process?

A. $NaCN$

B. $CuSO_4$

C. Pine oil

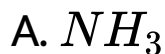
D. Cresol

Answer: C



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5. Which of the following is an example of electron deficient hydride?

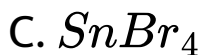
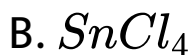


Answer: C



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6. Which of the following is not colorless?

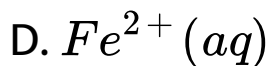
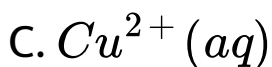
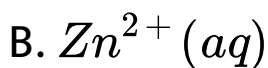
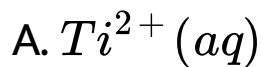


Answer: D



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7. Among the following species, which is the strongest oxidising agent?

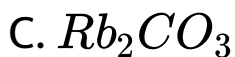
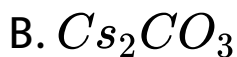
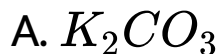


Answer: C



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8. Which of the following compounds cannot be prepared by solvay ammonia process?



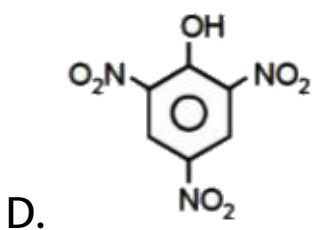
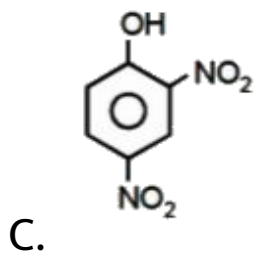
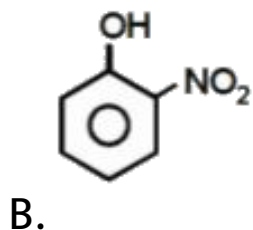
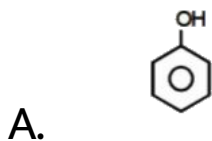
D. All of these

Answer: D



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9. Among the following , which is most acidic?

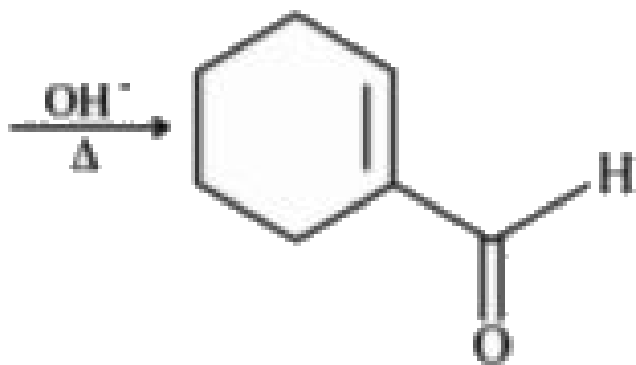


Answer: D

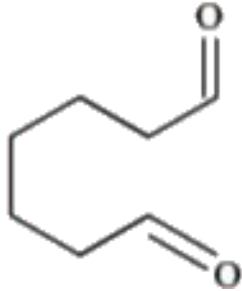
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10. Final product shown here can be obtained from

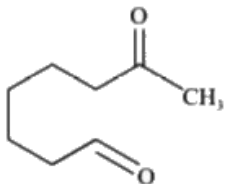
from



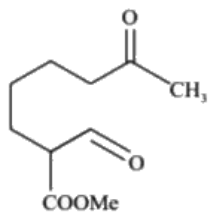
A.



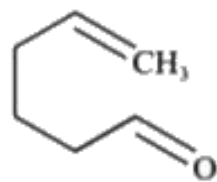
B.



C.



D.



Answer: A



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11. When isobutene reacts with benzene, which of the following product will be obtained?

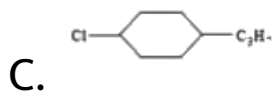
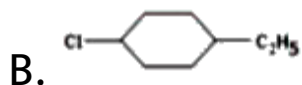
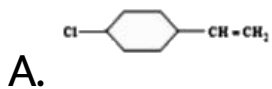
- A. Isobutyl benzene
- B. Tert-butyl benzene
- C. n-butyl benzene
- D. No reaction

Answer: B



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12. Identify the correct structure of the compound 1-Chloro-4-ethylcyclohexane.



D. None of these

Answer: B



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13. A metal X crystallises in a face-centred cubic arrangement with the edge length 862 pm. What is the shortest separation on any two nuclei of the atom?

$$(\sqrt{2} = 1.4)$$

A. 406 pm

B. 707 pm

C. 862 pm

D. 616 pm

Answer: D



14. The value of observed and calculated molecular weight of calcium nitrate are 65 and 165. The degree of dissociation of $Ca(NO_3)_2$ Will be:-

A. 0.85

B. 0.25

C. 0.5

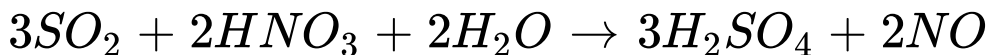
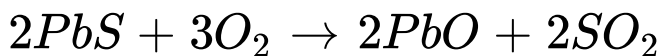
D. 0.75

Answer: D



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15. From the following reactions how many grams of H_2SO_4 can be obtained from 1320 g PbS?



Given atomic mass of $[Pb = 208][S = 32]$

A. 5.5 g

B. 294 g

C. 539 g

D. 808.5 g

Answer: C



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16. Two separate bulbs contain ideal gas A and B. The density of gas A is twice that of B. The molecular mass of A is half that of B. The two

gases are at the same temperature. The ratio of pressure A to that of gas B is :

A. 2

B. $\frac{1}{2}$

C. 4

D. $\frac{1}{2}$

Answer: C



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17. Calculate the maximum number of electrons of an atom which will have the following set of quantum numbers?

$$n = 4, l = 0, 1, 2, m = 0, \pm 1 \text{ and } s = \pm 1/2$$

.

A. 12

B. 7

C. 18

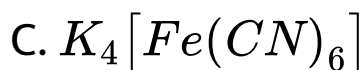
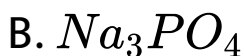
D. 14

Answer: D



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18. For a collorid $[Fe(OH)_3] / Fe^{3+} / Cl^-$, which of the following electrolytes will have maximum coagulating value?



Answer: D



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19. In an irreversible process, the value of

$\Delta S_{\text{system}} + \Delta S_{\text{surr}}$ is :

A. > 0

B. < 0

C. $= 0$

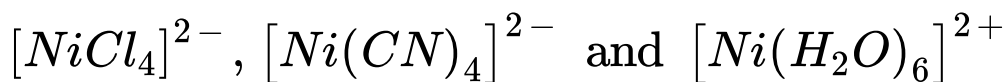
D. All of these

Answer: A



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20. According to crystal field theory, total number of unpaired electrons present in the following _____ molecules



will be



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21. If 150 cal of heat is added to a system while the system does work equivalent to 200 cal by

expanding against the surrounding atmosphere, the value of ΔU for the system is __ cal.



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22. Some amino acids are listed below:

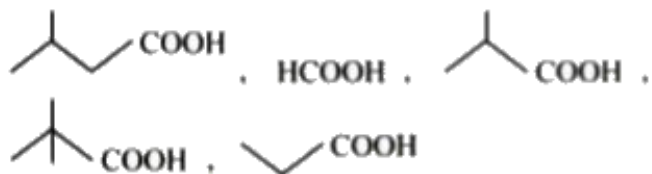
Try, Cys , Glu, Leu, Phe

How many of the following amino acids having an aromatic ring in their structures?



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23. Among the following compounds how many acids will show higher reactivity towards esterification reaction as compared to acetic acid?



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24. How many of the following compounds can be categorized as allylic halides? 3-Chloropropene, 3-bromocyclohexene, benzyl chloride, 4-iodopent-2-ene, bromobenzene, (1-chloroethyl)benzene, 4-chlorocyclopentene, 1-chlorobut-1-ene, 1-chlorobut-2-ene`



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25. How many of the following are thermoplastic polymers?

Melamine, bakelite, polystyrene, polyvinyl chloride, teflon and polythene.



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26. For a hypothetical reaction $2A + B \rightarrow$

Products, the rate law is given by Rate

$$= K[A]^2[B].$$

The overall order of the reaction will be?



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27. When 6 amperes of current is passed for 965 seconds in an aqueous solution of $NaCl$, the amount of chlorine evolved is _ _ _ _ g. [

Given : $1F = 96500Cmol^{-1}$]



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28. The concentration of sodium acetate which should be added to 0.1M solution of acetic acid [$pK_a = 4.7$] to give a solution of $pH = 5.7$ is _ _ _ _ _ M.





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29. Find the change in the oxidation number of carbon when ethane is burnt in the presence of excess of oxygen?



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