



## CHEMISTRY

### BOOKS - NTA MOCK TESTS

### NTA TPC JEE MAIN TEST 110

#### Chemistry

1. The average charge of the O- atom in the ion will be-

A.  $-2$

B.  $-0.5$

C.  $+1$

D.  $0$

**Answer: B**



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2. Which element is the diagonal partner of element B?

A. Li

B. Al

C. Si

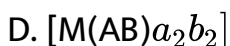
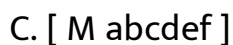
D. Mg

**Answer: C**



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3. Complex which has maximum stereo isomers where AA  $\rightarrow$  AA  $\rightarrow$  symmetrical bidented ligand AB  $\rightarrow$  unsymmetrical bidented ligand a, b, c, d, e, f- Monodentated ligand



**Answer: C**



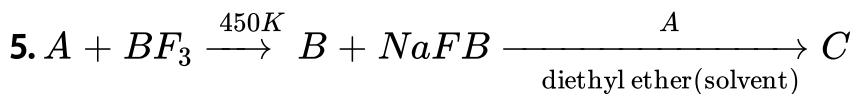
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4. In the cyanide extraction process of silver from argentite ore, what are the oxidizing and reducing agents used?

- A.  $O_2$  and CO respectively.
- B.  $O_2$  and Zn dust respectively
- C.  $HNO_3$  and Zn dust respectively
- D.  $HNO_3$  and CO respectively

**Answer: B**

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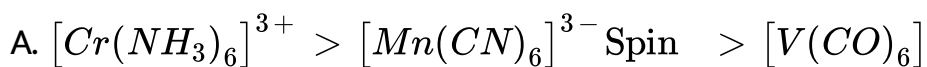
- A. sp
- B.  $sp^2$
- C.  $sp^3$
- D.  $sp^3 d^3$

Answer: C

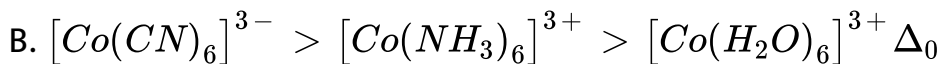


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6. Which of the following order is not correct?



m.m

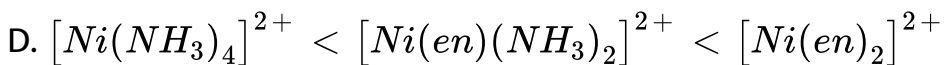


value

C.



strength



Thermodynamic stability

Answer: C



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7. Equivalent conductance of 0.2 M aqueous solution of a weak monobasic acid (HA) is  $10 \text{ S cm}^2 \text{equiv}^{-1}$  and that at infinite dilution is  $200 \text{ S cm}^2 \text{equiv}^{-1}$ . Dissociation constant of weak acid is

A.  $5 \times 10^{-4}$

B.  $10^{-4}$

C.  $10^{-5}$

D.  $2 \times 10^{-5}$

**Answer: A**



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**8. The Strongest reducing agent in aqueous solution is:**

A. Na

B. Li

C. K

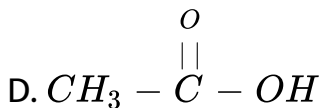
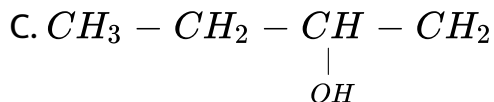
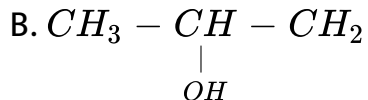
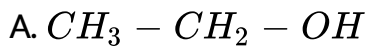
D. Cs

**Answer: B**



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9. Which of the following compound can not give iodoform test

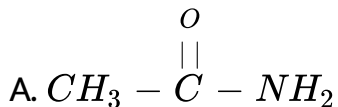


Answer: D

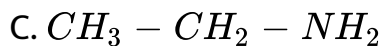
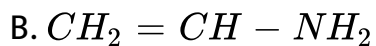


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10. Find the most basic of the following in gaseous state.







**Answer: D**



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**11.** On reduction of glucose with Na / Hg and water gives?

A. Sorbitol

B. Fructose

C. Saccharic acid

D. Gluconic acid

**Answer: A**



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12. Which reagent is used to check phenolic functional group?

A. Lucas reagent

B.  $FeCl_3$

C. 2,4 - DNP

D.  $NH_4OH$

**Answer: B**

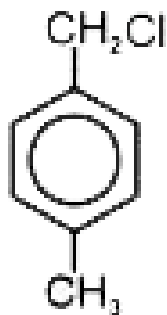


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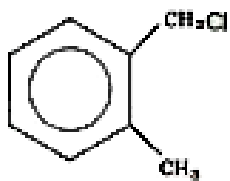
13. When compound A ( $C_8H_9Cl$ ) is treated with alcoholic  $AgNO_3$ , a white precipitate is formed. Oxidation of (A) gives an

acid (B),  $C_8H_6O_4$ . (B) easily forms anhydride on heating. Identify

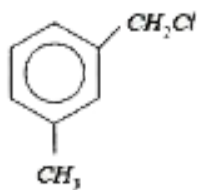
the compound (A).



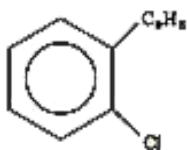
A.



B.



C.



D.

**Answer: B**



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14. Which of the following compound on heating with conc. sodium hydroxide give corresponding salt of carboxylic acid and alcohol?

A. Acetone

B. Acetophenone

C. Bnzaldehyde

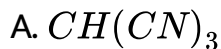
D. Benzophenone

**Answer: C**



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15. Among the following, which is the strongest acid?

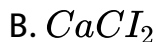


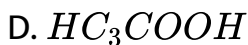
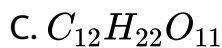
Answer: A



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16. Identify the non-electrolyte among the following





**Answer: C**



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17. Compare the osmotic pressure of Solution A contains 7 g/L of  $MgCl_2$  and solution B contains 7 g/L of NaCl at room temperature.

- A. Solution A is greater than B.
- B. Both have same osmotic pressure
- C. Solution B is greater than A.
- D. Cannot be determined

**Answer: C**



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**18.** The molecular mass of a gas which of diffuse through a porous plug of  $\frac{1^{th}}{6}$  of the speed of hydrogen under identical conditions is

A. 27

B. 72

C. 36

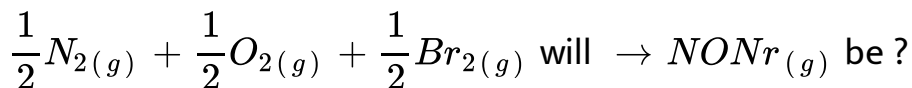
D. 48

**Answer: B**

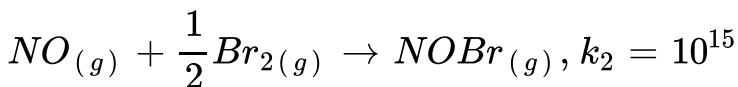
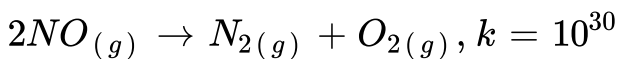


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19.  $K_c$  for the reaction



Given :



A.  $10^{+45}$

B.  $10^{+15}$

C.  $10^{-15}$

D. 1

Answer: D



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20. Calculate the enthalpy of formation of methanol ( $\Delta H_f(CH_3OH)(l)$ ) in  $\text{KJ mol}^{-1}$  using the data :

$\Delta H_{\text{vap}}(CH_3OH)(l)$  is

$$38 \text{ KJ mol}^{-1}$$

The heat of formation of gaseous atoms from elements in their standard states are

$$H = 218 \text{ KJ mol}^{-1} \quad C = 715 \text{ KJ}$$

$$\text{mol}^{-1} \quad O = 249 \text{ KJ mol}^{-1}$$

Average bond energy data is

$$C-H = 415 \text{ KJ mol}^{-1} \quad C-O$$

$$= 356 \text{ KJ mol}^{-1} \quad O-H = 463$$

$$\text{KJ mol}^{-1}$$

A.  $-266$

B.  $266$

C.  $313$

**Answer: A**

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**21.** How many of the following has bond angle of  $120^\circ$  ?

*PH<sub>3</sub>, ClF<sub>3</sub>, NCl<sub>3</sub>, BCl<sub>3</sub>, CH<sub>4</sub>, PCl<sub>3</sub>*

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**22.** Boron exhibits maximum covalency of-

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



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24. How many monochlorination products (excluding their stereoisomers if any) are possible for 2,2- dimethylpentane?



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25. How many isomers of the product will exist when cyclopentane is dichlorinated using  $Cl_2$  at high temperature?



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26. 0.01 mol NaOH is added to 10 litres of water. The pH of the solution is \_\_\_\_\_



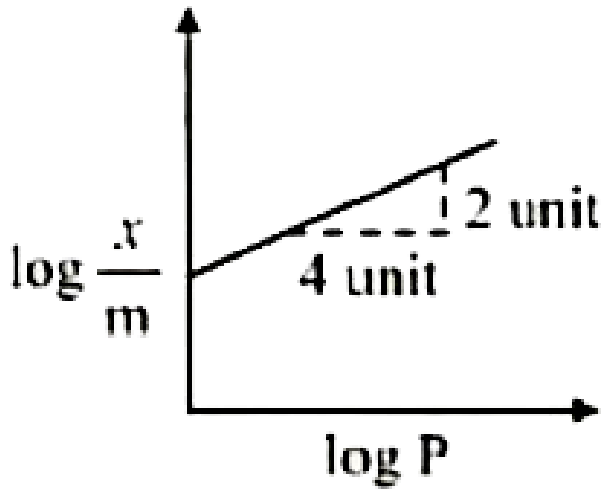
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27. Adsorption of a gas follows Freundlich adsorption isotherm.

In the given plot,  $x$  is the mass of the gas adsorbed on mass ( $m$ ) of the adsorbent at pressure ( $P$ ).

$$\frac{x}{m} \propto P^{(1/y)}$$

The magnitude of 'y' is \_\_\_\_\_



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**28.** What is the difference between the number of atoms per unit cell in facecentred cubic lattice and the number of atoms per unit cell in body-centred cubic lattice?



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29. Determine the value of azimuthal quantum number of the valence electron of rubidium ( $Z = 37$ ) ?



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30. The unit of rate constant,  $k$  for a third order reaction is  $\text{mol}^{-x} \text{L}^x \text{s}^{-1}$  The value of 'X' is \_\_\_\_\_



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