



# CHEMISTRY

## BOOKS - NTA MOCK TESTS

### NTA TPC JEE MAIN TEST 103

#### Chemistry

1. Which ionic compound has highest lattice energy?

A. NaF

B. NaCl

C. AgCl

D. AlN

**Answer: D**



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2. The conversion of  $O_{(g)}$  into  $O_{(g)}^{2-}$  is an endothermic process by gaining  $603 \text{ kJ mol}^{-1}$  of energy. If the first electron gain enthalpy of

$O_{(g)}$  is  $-141kJmol^{-1}$  then, what would be the second electron gain enthalpy of  $O_{(g)}$

A.  $+744kJmol^{-1}$

B.  $-744kJmol^{-1}$

C.  $+462kJmol^{-1}$

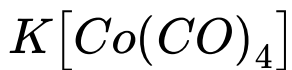
D.  $-462kJmol^{-1}$

**Answer: A**



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3. Oxidation state of central element in



A. +3

B. +2

C. -1

D. 0

**Answer: C**



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4. Of the following statements, which is correct regarding the extraction of metals like copper or iron, concerning slag formation?

A. The slag will be light with a higher melting point than the metal.

B. The slag will be light with a lower melting point than the metal.

C. The slag will be heavy with a higher melting point than the metal.

D. The slag will be heavy with a lower melting point than the metal.

**Answer: B**



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**5. Correct of Borak is/are**

A. Basic aqueous solution

B. Four B-O-B linkages

C. Tetranuclear compound

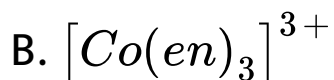
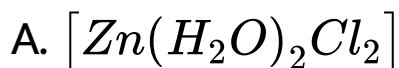
D. Both a and c

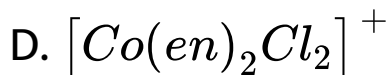
**Answer: D**



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6. Which of the following complex shows geometrical isomerism?



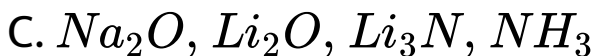
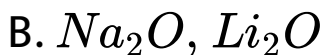


**Answer: D**



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7. What will be the possible products when Na and Li are placed in dry air?



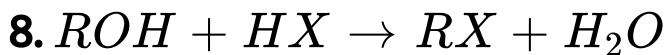


D.  $Na_2O$ ,  $Li_3N$ ,  $Li_2O$

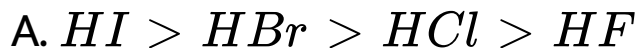
**Answer: D**

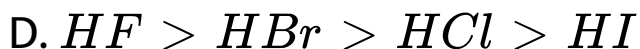
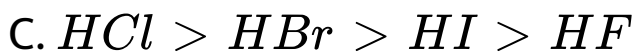


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In the above reaction, the reactivity order of hydrogen halides is,



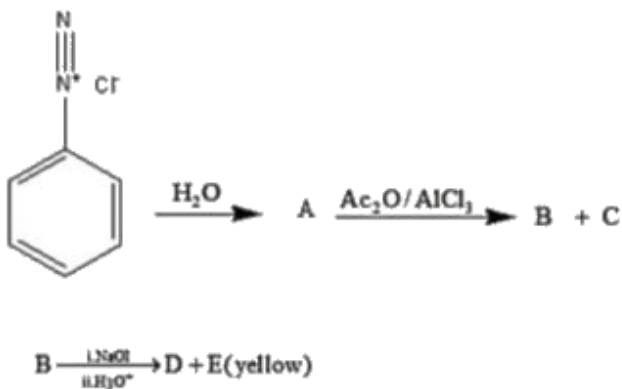


**Answer: A**



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**9.** Identify out of A,B,C,D and E the one which is used in the manufacture of Aspirin?



A. D

B. C

C. E

D. AIN

**Answer: A**

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10. Which of these is responsible for the chirality of DNA and RNA molecules?

A. Chiral bases

B. Chiral phosphate ester units

C. D-sugar component

D. L-sugar component

**Answer: C**



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11. Which of the following compounds would not give tert butyl alcohol when treated with excess methyl magnesium bromide followed by acid?

A. acetyl chloride

B. acetaldehyde

C. methyl acetate

D. acetic anhydride

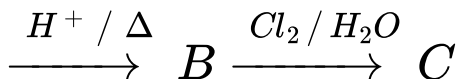
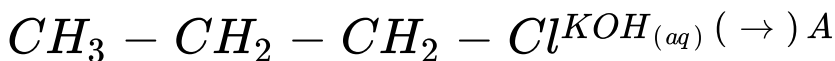
**Answer: B**



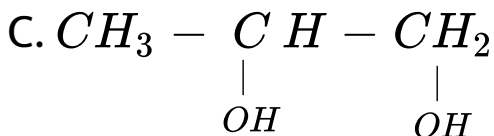
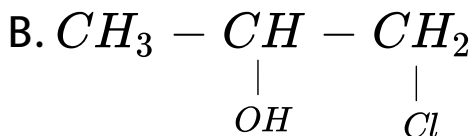
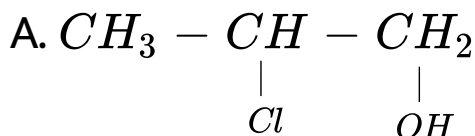
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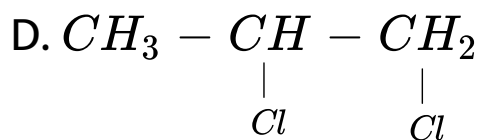
12. What is the product (major)

C formed in the reaction?



(major )

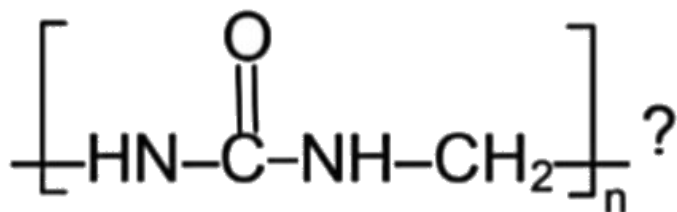




**Answer: B**

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13. Which of the following compound is a constituent of the polymer



A. Formaldehyde

B. Ammonia

C. Methylamine

D. N-Methyl urea

**Answer: A**



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**14. An isomer of propanal is**

A. Acetone

B. Propane



C. Propanol

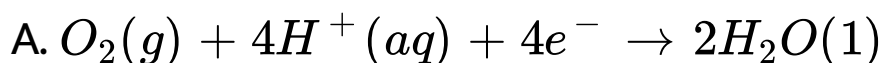
D. Propionic acid

**Answer: A**

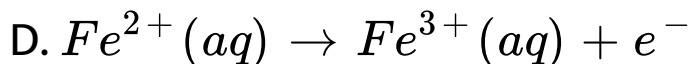
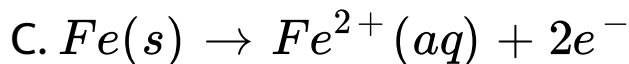
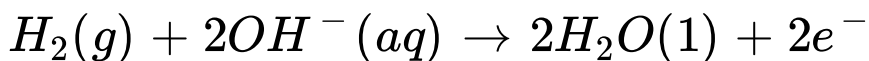


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**15.** In an aqueous solution the reaction occurs at the cathode, on basis of electrochemical theory of corrosion is



B.



**Answer: A**



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**16.** Normality of the solution obtained when  $5NH_2SO_4$  is diluted from 1 litre to 10 litres is

A. 10N

B. 5N

C. 1N

D. 0.5N

**Answer: D**



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**17.** How much oxygen is required for complete combustion of 600 gm of ethene?

A. 6.4kg

B. 1.92kg

C. 2.8kg

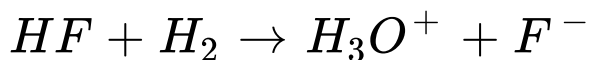
D. 9.6kg

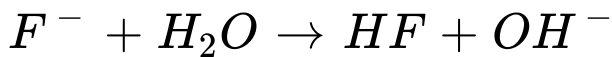
**Answer: B**



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**18. Given**





Which relation is correct?

A.  $K_b = k_w$

B.  $K_b = 1 / K_w$

C.  $K_a \times K_b = K_w$

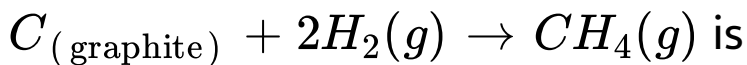
D.  $K_a / K_b = K_w$

**Answer: C**



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**19.** Enthalpy change for the following reaction



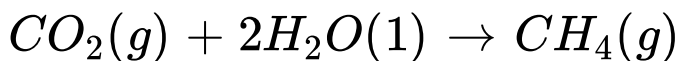
Given:

$$\Delta_f H^\circ (CO_{2(g)}) = - 393$$

$$.5kJmol^{-1}$$

$$\Delta_f H^\circ (H_2O_{(l)}) = - 285$$

$$.8kJmol^{-1}$$



$$+ 2O_2(g), \Delta_r H^\circ = + 890$$

$$.3kJmol^{-1}$$

$$\text{A. } + 144.0kJmol^{-1}$$

B.  $-74.8 \text{kJmol}^{-1}$

C.  $-144.1 \text{kJmol}^{-1}$

D.  $+74.8 \text{kJmol}^{-1}$

**Answer: B**



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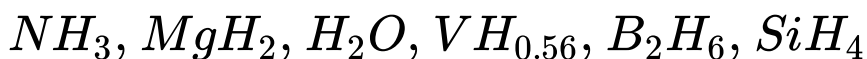
**20.** The atomic number of an element is 14.

The number of dots to be drawn in its Lewis symbol is .....



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21. How many of the following are electron deficient molecular hydride?



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22. One mole of calcium acetate and calcium propionate undergoes dry distillation to form x mole (s) of ethyl methyl ketone. Find the value of x.





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23. How many compounds amongst the following is/are bicyclic non benzenoid compounds?

Naphthalene, anthracene, tropone, azulene, piperidine, thilophene



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24. Find the total number carbonyl compounds represented by the formula

$C_5H_{10}O$ . (Excluding stereoisomers)

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25. pH a solution of 6 The  $OH^-$  concentration of the solution is  $10^{-7}M$ . What is the value of y?

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26. How many of the following is/are examples of emulsion? Paint, milk, cheese, fog , hair

cream, rubber



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27. Calculate the number of atoms in a cubic based unit cell having one atom one each corner and two atoms on reach body diagonal.



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28. The maximum number of orbitals associated with the M-shell is.....



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29. For a hypothetical first order reaction,

$A + B + C \rightarrow$  Products, the rate law is

expressed as, Rate =  $k[A]^x[B]^y[C]^z$ . The

value of  $(x + y + z)$  is .....



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