



## CHEMISTRY

### BOOKS - NTA MOCK TESTS

#### NTA JEE MOCK TEST 51

#### Chemistry

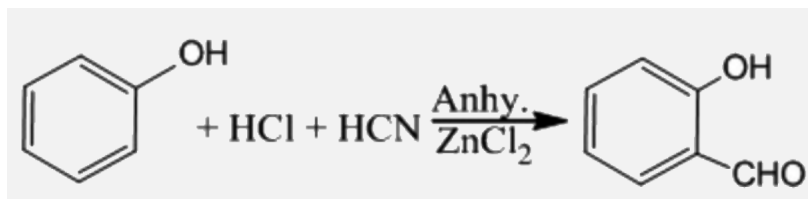
1. Which of the following coordinate compounds would exhibit optical isomerism?

- A. Pentaamminenitrocobalt (III) iodide
- B. Diamminedichloroplatinum (II)
- C. Trans - dicyanobis (ethylenediamine) chromium (III) chloride
- D. Tris - (ethylenediamine) cobalt (III) bromide

Answer: D

 Watch Video Solution

2. The following reaction is known as



- A. Perkin reaction
- B. Gattermann reaction
- C. Kolbe reaction
- D. Gattermann - aldehyde reaction

Answer: D

 Watch Video Solution

3. Suppose that gold is being plated on to another metal in an electrolytic cell. The half - cell reaction producing the  $Au(s)$  is  $AuCl_4^- + 3e^- \rightarrow Au(s) + 4Cl^-$ . If a 0.30 A current runs for 15.00 minute, what mass of  $Au(s)$  will be plated, assume all the electrons are used in the reduction of  $AuCl_4^-$  ? the Faraday constant is 96485 C/mol and molar mass of Au is 197.

A. 0.184 g

B. 0.551 g

C. 1.84 g

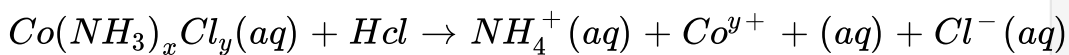
D. 0.613 g

**Answer: A**



**Watch Video Solution**

4. A complex of cobalt with ammonia is analyzed for determining its formula, by titrating it against a standardized acid as follows :



A 1.8 g complex required 20.00 mL 1.54 M HCl to reach the equivalence point. Also, if the reaction mixture at equivalence point is treated with excess of  $AgNO_3$  solution, 7.735 g of AgCl precipitate was produced. What is the formula of this complex?

[Given : atomic weight of Co = 59  $gmol^{-1}$ ]



**Answer: A**

 [Watch Video Solution](#)

5. The value of n in the molecular formula  $Be_nAl_2Si_6O_{18}$  is:

A. 1

B. 2

C. 3

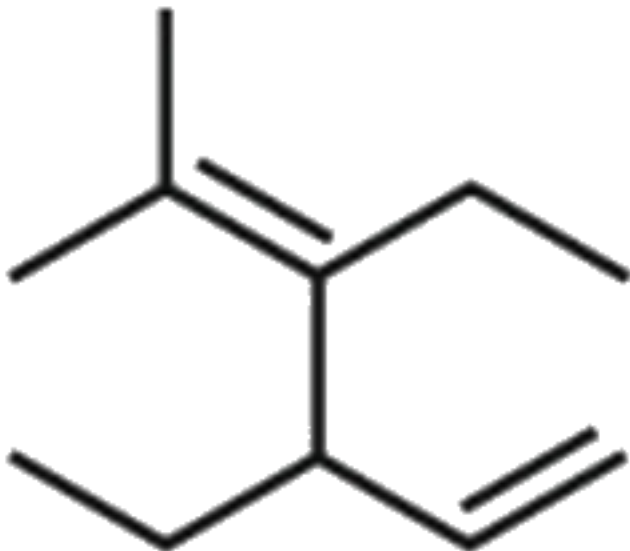
D. 4

**Answer: C**



**Watch Video Solution**

6. Which is the correct IUPAC name of this compound



A. 6-ethyl -3- (1- methylbutyl)-4 6-octadien -1- yne

B. 3, 4 - diethyl -5- methyl -1, 4- hexadiene

C. 2 cyclopentyl propene

D. 1-(1- methylcyclopropyl)-2-(2 methylcyclopropyl)

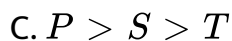
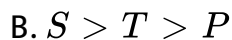
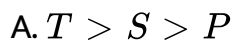
cyclopropene

**Answer: B**



Watch Video Solution

7. Reactivity order of primary(p), secondary(s) and tertiary (T) alcohols towards esterification is



D. None of these

**Answer: C**



Watch Video Solution

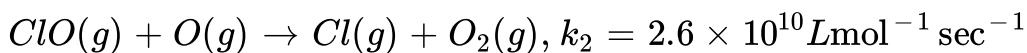
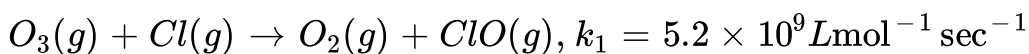
8.2 - Methylpent -2- ene on reductive ozonolysis will give

- A. Propanal only
- B. Propanal and ethanal
- C. Propanone & propanal
- D. Propan-2-ol and ethanal

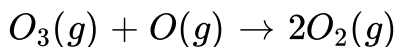
**Answer: C**

 [Watch Video Solution](#)

9. The reaction of  $O_3$  with chlorine atom is given as :



Which of these values is closest to the rate constant of the overall reaction ?



A.  $1.4 \times 10^{20} \text{ L mol}^{-1} \text{ s}^{-1}$



B.  $3.1 \times 10^{20} \text{ L mol}^{-1} \text{ s}^{-1}$

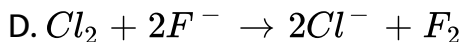
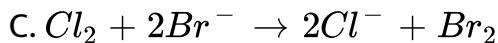
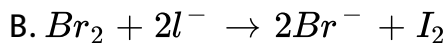
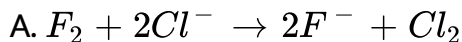
C.  $5.2 \times 10^{20} \text{ L mol}^{-1} \text{ s}^{-1}$

D.  $2.6 \times 10^{20} \text{ L mol}^{-1} \text{ s}^{-1}$

**Answer: A**

 [Watch Video Solution](#)

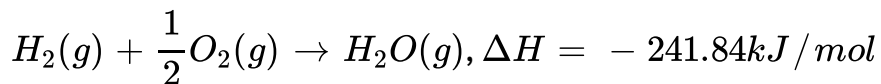
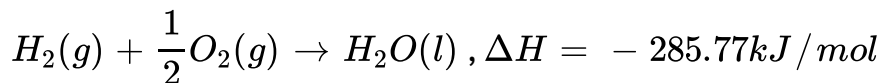
**10.** Which of the following reactions does not take place?



**Answer: D**



11. The enthalpy of vaporisation of liquid water using the data



A. +43.93

B. -43.93

C. +527.61

D. -527.61

**Answer: A**

12. The correct decreasing order of electropositive character among the following elements is:

Fe, Sc, Rb, Br, Te, F, Ca

A.  $Fe > Sc > Rb > Br > Te > F > Ca$

B.  $Ca > Rb > Sc > Fe > Te > F > Br$

C.  $Rb > Ca > Sc > Fe > Br > Te > F$

D.  $Rb > Ca > Sc > Fe > Te > Br > F$

**Answer: D**

 [Watch Video Solution](#)

13. Solubility of alkaline earth metal sulphates decreases down the group 2 because

- A. The lattice energy of sulphates of group II decreases down the group
- B. The lattice energy of sulphates of group II increases down the group
- C. Both hydration and lattice energies decreases down the group
- D. The decrease in hydration energy is more than the decreases in lattice energy

**Answer: D**

 [Watch Video Solution](#)

14. The major organic compound formed by the reaction of 1,1,1-trichloroethane with silver powder is .

A. Acetylene

B. Ethene

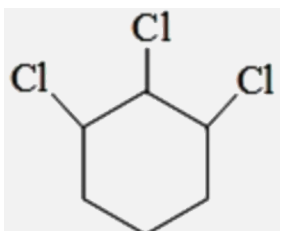
C. 2 - Butyne

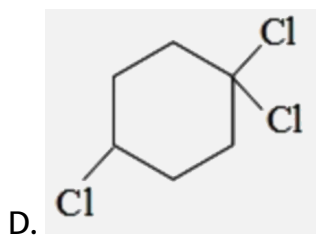
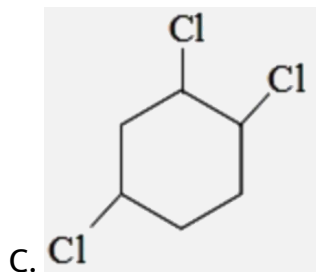
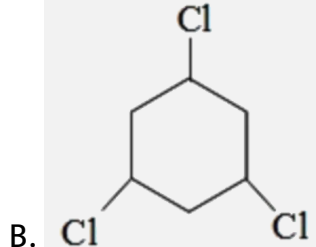
D. 2 - Butene

**Answer: C**

 [Watch Video Solution](#)

15. Which of the following compounds does not have any geometrical isomer ?





Answer: D

 [Watch Video Solution](#)

16.  $KMnO_4$  reacts with KI in basic medium to form  $I_2$  and  $MnO_2$ .

When 250 mL of 0.1 M KI solution is mixed with 250 mL of 0.02 M

$KMnO_4$  in basic medium, what is the number of moles  $I_2$  formed

?

- A. 0.015
- B. 0.0075
- C. 0.005
- D. 0.01

**Answer: B**

 [Watch Video Solution](#)

17. Two beaker A and B present in a closed vessel. Beaker A contains 152.4 g aqueous solution of urea, containing 12 g of urea. Beaker B contains 196.2 g glucose solution, containing 18 g of glucose. Both solutions allowed to attain the equilibrium. Determine wt. % of glucose in its's soltuion at equilibrium:

A. 6.71

B. 14.49

C. 16.94

D. 20

**Answer: B**



**Watch Video Solution**

**18.** Rearrangement of an oxime to an amide in the presence of a strong acid is called

A. Curtius rearrangement

B. Frie's rearrangement

C. Beckmann's rearrangement

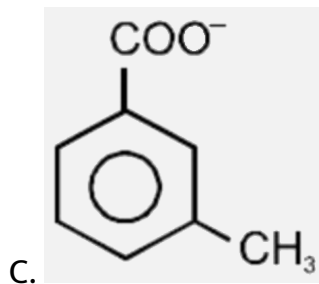
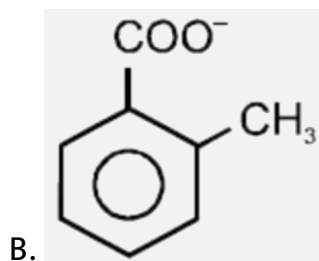
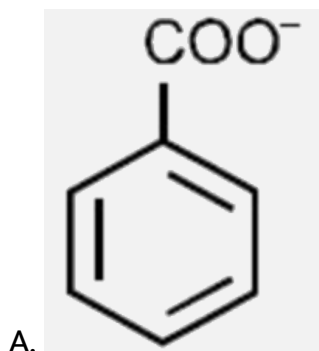
D. Aldol condensation

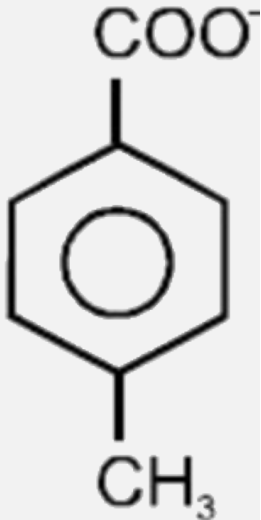


Answer: C

 Watch Video Solution

19. Which of the following is the strongest base :-





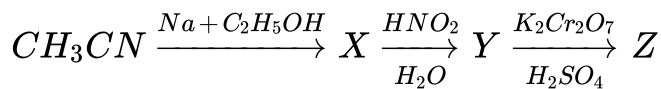
D.

Answer: D



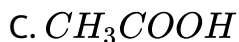
Watch Video Solution

20. Identify the product 'Z' in the following sequence of reactions.



A.  $\text{CH}_3\text{CHO}$

B.  $\text{CH}_3\text{CONH}_2$



**Answer: C**

 [Watch Video Solution](#)

21. The half life of radioactive isotope is 3 hour. If the initial mass of isotope were 256 g, the mass of it remaining undecayed after 18 hr is a)12 g b)16 g c)4 g d)8 g

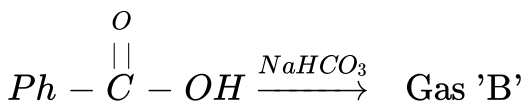
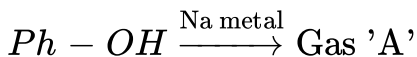
 [Watch Video Solution](#)

22. How many of the following elements exclusively occur in combined state? Gold, iron, zinc, aluminium, platinum, sodium, magnesium



 Watch Video Solution

23. Consider following reactions:



The sum of molecular masses of gas A and B is ----- u.

 Watch Video Solution

24. The number of unpaired electrons in  $[CoF_6]^{3-}$  are

 Watch Video Solution

25. For the reaction  $N_2O_4 \rightleftharpoons 2NO_{2(g)}$ , the degree of dissociation of  $N_2O_4$  is 0.2 at 1 atm. Then the  $K_p$  of  $2NO_2 \rightleftharpoons N_2O_4$  is



**Watch Video Solution**