



# CHEMISTRY

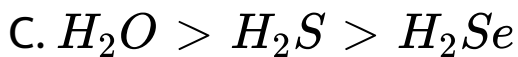
## BOOKS - NTA MOCK TESTS

### NTA TPC JEE MAIN TEST 94

#### Chemistry

1. Which is the incorrect order of bond angle :-



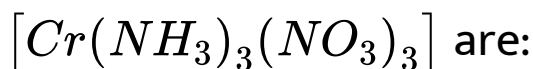


**Answer: B**



**View Text Solution**

2. The number of geometrical isomers of



A. 3

B. 2

C. 0

D. 4

**Answer: B**



**View Text Solution**

**3.** Which one of the following compounds shows the presence of intramolecular hydrogen bond ?

A. O-Chlorophenol

B. Acetic acid in benzene

C.  $H_2O_2$

D. HCN

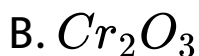
**Answer: A**



[View Text Solution](#)

4. The orange-red fumes formed are of which compound when a mixture of

$NaCl(S)$ ,  $K_2Cr_2O_7(s)$  and conc.  $H_2SO_4$  is heated?



**Answer: D**



**View Text Solution**

5. The purest \& thermodynamically most stable allotrope of carbon respectively is:-

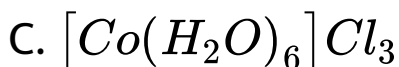
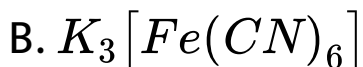
- A. Diamond, Graphite
- B. Fullerenes, Graphite
- C. Graphite, Diamond
- D. Graphite, Fullerenes

**Answer: B**



**View Text Solution**

6. Zero magnetic moment will be shown by the complex:-

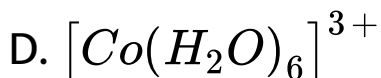
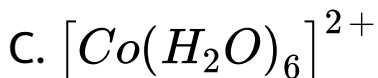
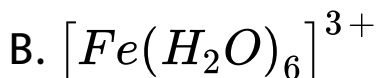
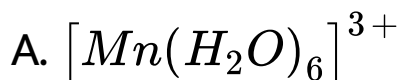


**Answer: C**



**View Text Solution**

7. Among the following complexes the one which shows Zero crystal field stabilization energy (CFSE) is:



**Answer: B**



**View Text Solution**



8. Dehydration of secondary and tertiary alcohol to give corresponding ethers is unsuccessful because :

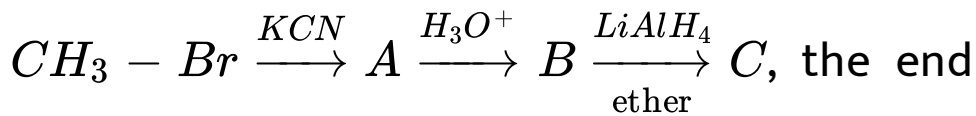
- A. Elimination competes over substitution
- B. Substitution competes over elimination
- C. Addition competes over substitution
- D. Elimination competes over addition

**Answer: A**



**View Text Solution**

9. In the following sequence of reactions:



product (C) is:

A. Acetaldehyde

B. Ethyl alcohol

C. Acetone

D. Methane

**Answer: B**



**View Text Solution**

**10.** Product of benzene diazonium chloride on reaction with phenol in alkaline medium:

- A. p-Hydroxyazobenzene (Blue dye)
- B. p-Hydroxyazobenzene (Orange dye)
- C. p-Aminoazobenzene (Yellow dye)
- D. p-Aminoazobenzene (Orange dye)

**Answer: C**



**View Text Solution**

11. Which of the following statements is wrong ?

A. Ethyl chloride on reduction with Zn - Cu couple and alcohol gives ethane

B. The reaction of methyl magnesium bromide with acetone gives butanol-2

C. Hydrogen halides follow the following reactivity sequence on reaction with alkenes

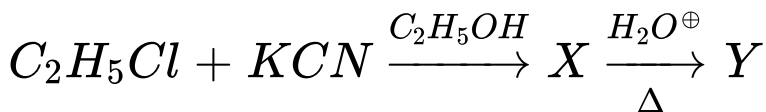


D.  $C_2H_4Cl$  may exist in two isomeric forms.

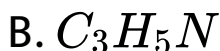
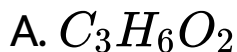
**Answer: B**

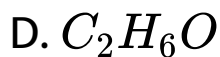
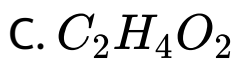
 [View Text Solution](#)

12. In the reaction sequence,



What is the molecular formula of Y?

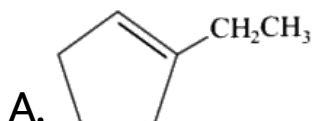
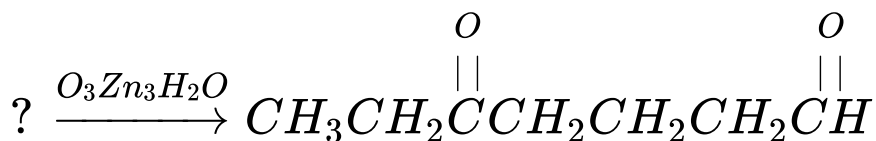


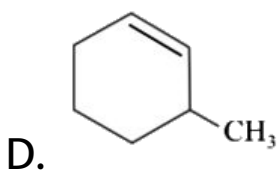
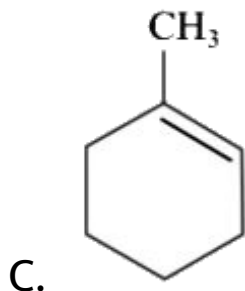
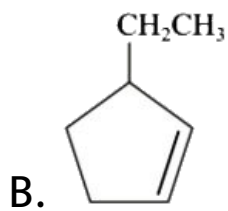


**Answer: A**

 [View Text Solution](#)

13. Which of the following alkene would produce the product shown in the reaction ?





**Answer: A**



**View Text Solution**

14. Among the following, select the correct

IUPAC name of an organic compound:

I. Pent-3-ene

II. 2-Methylcyclopropene

III. 1—Ethyl —2, 2 dimethylcyclohexane.

IV. Buta-1,3-diene

A. Only III & IV

B. Only IV

C. Only I, II &

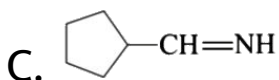
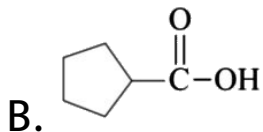
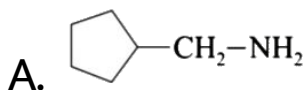
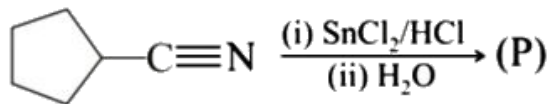
D. All are correct

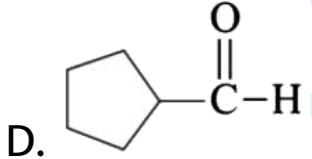


**Answer: B**

 **View Text Solution**

**15.** The product (P) in the following reaction:





**Answer: D**

 [View Text Solution](#)

**16.** What is the minimum concentration of  $SO_4^{2-}$  required to precipitate  $BaSO_4$  in a solution containing.

$1 \times 10^{-4}$  mole of  $Ba^{2+}$  ? ( $K_{sp}$  for  $BaSO_4 = 4 \times 10^{-10}$ )

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

B.  $2 \times 10^{-10} M$

C.  $4 \times 10^{-6} M$

D.  $2 \times 10^{-3} M$

**Answer: C**



**View Text Solution**

**17.** Niobium crystallises in a body-centred Cubic structure having density  $8.55 \text{ g cm}^{-3}$  (atomic mass is 93 g/mol), then calculate the

radius of the niobium atom ?

$$(N_A = 6 \times 10^{23}), (\sqrt[3]{36} = 3.3)$$

A.  $3.3 \times 10^{-8} \text{ cm}$

B.  $1.16 \times 10^{-8} \text{ cm}$

C.  $1.43 \times 10^{-8} \text{ cm}$

D.  $1.65 \times 10^{-8} \text{ cm}$

**Answer: C**



**View Text Solution**

**18.** Which has the maximum number of atoms ?

A. 24g C(12)

B. 56 g Fe(56)

C. 27 g Al(27)

D. 108 g Ag (108)

**Answer: A**



**View Text Solution**

19. The activation energy for forward and backward reactions are:  $19\text{kJ mol}^{-1}$  and  $9\text{kJ mol}^{-1}$  respectively, for a hypothetical reaction  $A \rightarrow B$ . The heat of reaction is:

A.  $9\text{kJ mol}^{-1}$

B.  $19\text{kJ mol}^{-1}$

C.  $+10\text{kJ mol}^{-1}$

D.  $28\text{ kJ mol}^{-1}$

**Answer: C**



**View Text Solution**

20. In which process,  $\Delta U$  is equal to  $W$  ?

- A. Isobaric process
- B. Adiabatic process
- C. Isothermal process
- D. Isochoric process

**Answer: B**



**View Text Solution**

**21.** Find the number of valence electrons for an element with Atomic number 8.



**View Text Solution**

**22.** The total number of product(s) obtained from the calcination of malachite ore is/are:



**View Text Solution**



23. Evaluate how much amount of calcium oxide would be required when it reacts with 852 g of  $P_4O_{10}$



[View Text Solution](#)

24. Total number of carboxylic acid functional groups is present in one molecule of dipeptide glycylalanine.



[View Text Solution](#)

25. How many of the following is/are the correct match.

(i) Photochemical smog:

$CF_2Cl_2$  (common component)

(ii) Ozone layer: Protects from the Sun's radiation of wavelength 255 nm.

(iii) Methemoglobinemia : Caused by the presence of greater than 50 ppm of nitrate in drinking water.

(iv) Ozone layer depletion.

$ClO(g) + O(g) \rightarrow Cl(g) + O_2(g)$  (one of the reaction involved)

(v) DDT: Biodegradable pollutant

(vi) Green house gas:



[View Text Solution](#)

**26.** The e.m.f. of the cell in the reaction:

$\text{Zn(s)} + \text{Ni}^{(2+)} (1.0 \text{ M})$  is found to be 0.48V at

298K. The standard e.m.f. of the cell is \_\_\_\_\_ V.



[View Text Solution](#)

27. In  $TeO_{3(aq)}^{2-} \rightarrow TeO_{4(aq)}^{2-}$ , Find the change in oxidation state of Te ?

 [View Text Solution](#)

28. Vapour pressure of a pure solvent is 100mm Eg. When certain amount of nonvolatile, non-electrolyte solute is added, its vapour pressure is lowered by 10mm Eg. The value of mole fraction of solute will be \_\_\_\_\_

 [View Text Solution](#)

29. The diffusion rate of  $CH_4$  is twice that of unknown gas 'X'. The molecular weight of gas X is \_\_\_\_\_  $\text{g mol}^{-1}$



[View Text Solution](#)

30. 'x' is an element present in the modern periodic table. If  $X^3$  ion has 15 protons, then the number of electrons present in  $X^{3+}$  ion will be \_\_\_\_\_.



[View Text Solution](#)

