



# CHEMISTRY

## BOOKS - NTA MOCK TESTS

### NTA NEET TEST 79

#### Chemistry

1. What is the correct sequence of following electromagnetic radiation arranged in the increasing radiation in the increasing order of

energy ?

1. X - rays

2. Visible light

3.  $\gamma$  - rays

Select the correct answer using the codes given below

A. 1,3,2

B. 1,2,3

C. 3,1,2

D. 2,1,3

**Answer: D**



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2. 1.2 L of hydrogen and 1.12 L of chlorine are reacted. The composition by volume of mixture is

- A. 0.08 L of  $H_2$  and 2.24 L of HCl
- B. 2.24 L of  $H_2$  and 2.24 L of HCl
- C. 0.08 L of  $Cl_2$  and 20.8 L of HCl
- D. 22.4 L of  $Cl_2$  and 20.8 L of HCl

**Answer: A**



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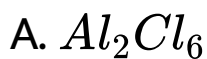
3. Anhydrous  $AlCl_3$  produces fumes in the air because of

- A. hydrolysis
- B. dehydration
- C. hydration
- D. oxidation

**Answer: A**



4. Which one of the following molecules has a coordinate bond



**Answer: A**



5. Which one of the following has aromatic character ?

A. cyclopentadienyl cation

B. cyclopentadienyl radical

C. cyclopentadienyl anion

D. cyclopentadiene

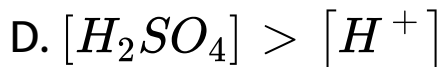
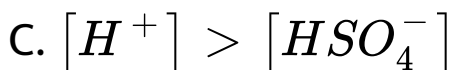
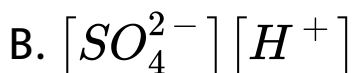
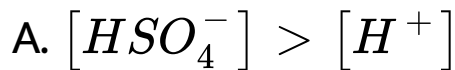
**Answer: C**



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6. What is a true statement with regard to 0.10

M  $H_2SO_4$  solution ?



**Answer: C**



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7. Which change must result in an increase in the average kinetic energy of the molecules of a sample of  $N_2(g)$  ?

A. The pressure changes from 0.5 atmosphere to 1 atm

B. The volume changes from 1 L to 2 L

C. The temperature changes from  $20^\circ C$  to  $30^\circ C$

D. The density changes from 2.0 g/L to 25 g/L



**Answer: C**



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**8.** The hybridisation of central metal ion and shape of Wilkinson's catalyst is

A.  $dsp^2$ , square planar

B.  $sp^3$ , tetrahedral

C.  $d^2sp^3$ , octahedral

D.  $sp^3d$ , trigonal bipyramidal

**Answer: A**



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9. The equilibrium constant  $K_p$  for the homogeneous reaction is  $10^{-3}$ . The standard Gibbs free energy change  $\Delta G^\ominus$  for the reaction at  $27^\circ C$  (using  $R = 2\text{calK}^{-1}\text{mol}^{-1}$ ) is

A. 0

B.  $-1.8\text{kcal}$

C.  $-4.1454\text{kcal}$

D.  $+4.1454\text{kcal}$

**Answer: D**



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**10.** Neoprene rubber is obtained by the polymerization

A. polyhalo - olefin

B. polybutadiene

C. polythylacrylate

D. polyamide

**Answer: A**

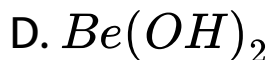
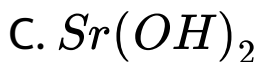


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**11.** Amongst the following hydroxides, the one which has the lowest value of  $K_{sp}$  is:

A.  $Mg(OH)_2$

B.  $Ca(OH)_2$



**Answer: D**



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**12.** During the preparation of colloidal sol by Bredig's are method , traces of alkali ( $NaOH$  or  $Na_2CO_3$ ) is added to

A. Homogenise the sol

B. stabilize the sol

C. act as peptizing agent

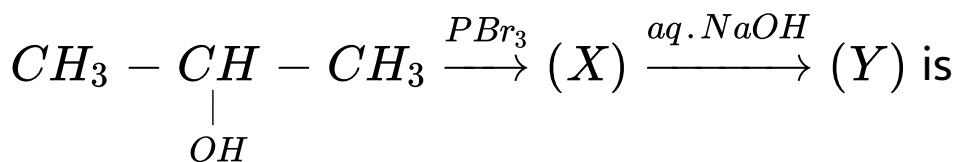
D. act as coagulating agent

**Answer: B**



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**13.** The 'Y' in the following sequence of reactions



A. propene

B. propan - 1 - ol

C. propan -2 - ol

D. propyne

**Answer: B**



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**14.** Potassium super-oxide ( $KO_2$ ) is used in space capsuled, submarines, and breathing masks, because it is

A. it removes carbon dioxide

B. it produce oxygen

C. it reacts with moisture

D. both A and B

**Answer: D**



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**15.** The correct IUPAC name of the complex

$[Cr(NH_3)_5(NCS)][ZnCl_4]$  is



- A. Pentaammine isothiocyanato chromium  
(III) tetrachloro zincate (II)
- B. Pentaammine isothiocyanato chromium  
(IV) tetrachloro zincate (III)
- C. Tetrachloro zincate (II) pentaammine  
isothiocyanato chromium (III)
- D. Pentaammine tetrachloro zincate (II)  
isothiocyanato chromium (III)

**Answer: A**



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16.  $HBr$  reacts fastest with

A. 2 - methylpropan -2-ol

B. propan - 1 - ol

C. propan -2 - ol

D. 2 - methylpropan -1-ol

**Answer: A**



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17. The solubility of  $AgI$  in  $NaI$  solutions is less than that in pure water because:

A.  $AgI$  forms complex with  $NaI$

B. of common ion effect

C. solubility product of  $AgI$  is less than that of  $NaI$

D. the temperature of the solution decreases

**Answer: B**



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18. Which of the following oxides reacts with both HCl and NaOH?

A. CaO

B.  $CO_2$

C.  $ZnO$

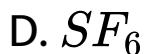
D.  $N_2O_5$

**Answer: C**



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19. Metal halide which is insoluble in water is



**Answer: D**



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20. 0.85 % aqueous solution of  $NaNO_3$  is apparently 90 % dissociated at  $27^\circ C$ .

Calculate its osmotic pressure.

$$(R = 0.0821 \text{ atm K}^{-1} \text{ mol}^{-1})$$

A. 4.674 atm

B. 46.74 atm

C. 2.46 atm

D. 4.674 mm Hg

**Answer: A**



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21. What is spectrochemical series?

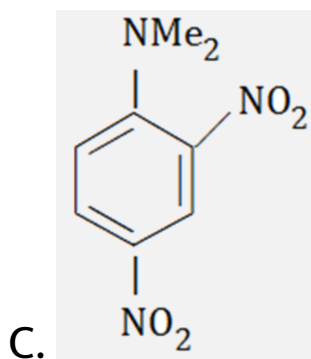
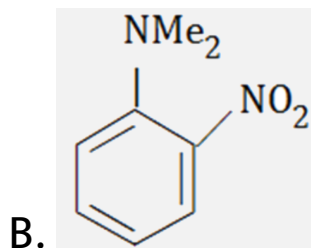
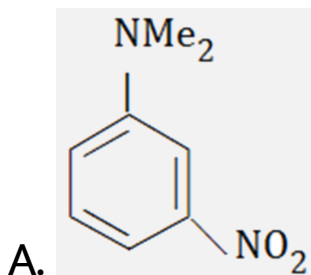


**Answer: D**

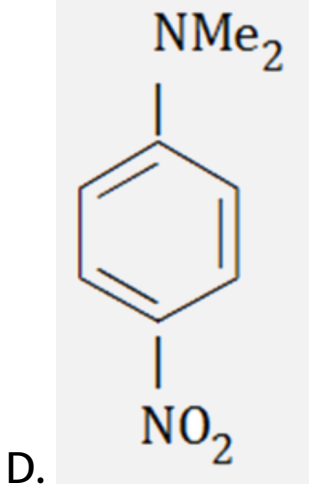


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22. The major product formed on nitration of N, N - dimethylaniline with conc.  $H_2SO_4$ ,  $NHO_3$  mixture is







**Answer: A**

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**23.** How many grams of a dibasic acid (Mol. Wt. =200) should be present in 100 ml of its aqueous solution to give decinormal strength

A. 10 g

B. 1 g

C. 2 g

D. 20 g

**Answer: B**



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**24.** Which of the following compounds would be most ionic in character ?

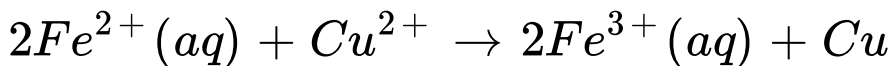


**Answer: B**



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**25.** Consider the following reaction at equilibrium



When the reaction comes to equilibrium, what is the cell voltage ?

A. 0.43 V

B. 1.11 V

C. 0.78 V

D. 0 V

**Answer: D**



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26. Find the incorrect statement

A.  $PH_4^+$  ion is tetrahedral like  $NH_4^+$  ion

and is obtained when  $PH_3$  is bonded to  
proton

B.  $PH_4I$  is one of the most stable salt

containing the phosphonium ion. It is  
also more stable than ammonium salts

C.  $PH_4I$  is decomposed by caustic potash to

form  $PH_3$

D.  $PH_3$  is used for making Holme's signals

**Answer: B**



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**27.** The numbers of radial nodes of  $3s$  and  $2p$  orbitals are respectively:

A. 0,2

B. 2,0

C. 2,1

D. 1,2

**Answer: C**



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**28.** The hyperconjugative stabilities of tert-butyl cation and 2-butene, respectively, are due to

A.  $\sigma \rightarrow p$  (empty) and  $\sigma \rightarrow \pi^*$  electron delocalisations.

B.  $\sigma \rightarrow \sigma^*$  and  $\sigma \rightarrow \pi$  electron

delocalisations.

C.  $\sigma \rightarrow p$  (filled )  $\sigma \rightarrow \pi$  electron

delocalisations.

D.  $p$  (filled )  $\rightarrow \sigma^*$  and  $\sigma \rightarrow \pi^*$  electron

delocalisations.

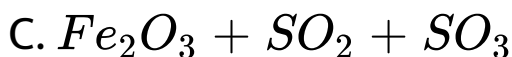
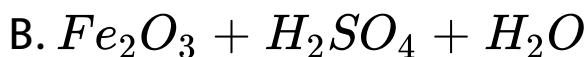
**Answer: A**



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29. The crystals of ferrous sulphate on heating give

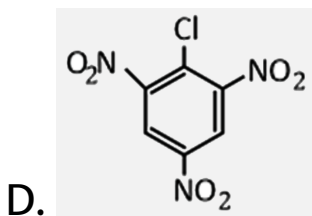
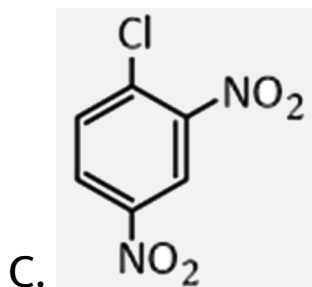
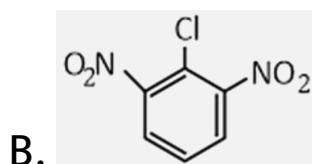
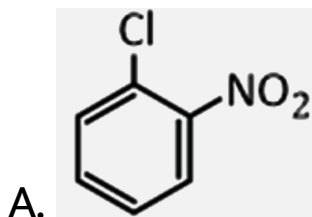


**Answer: C**



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30. 2,4 - DNP is obtained by reacting hydrazine hydrate with which of the following ?



**Answer: C**



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**31.** On heating with dilute sulphuric acid, naphthalene - 1 sulphonic acid gives predominantly

A. naphthalene

B. naphthalene 2 - sulphonic acid

C. 1 - naphthol

D. 2 - naphthol

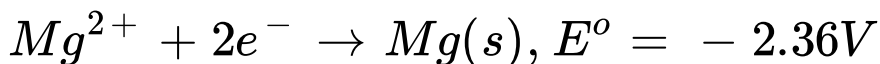
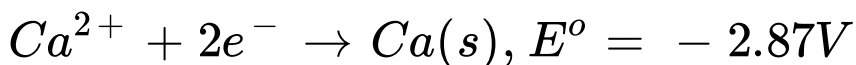
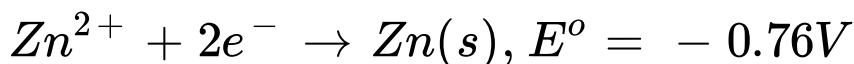
**Answer: B**



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**32.** Consider the following reduction processes

:



The reducing power of the metals increases in the order :

A.  $Ca < Zn < Mg < Ni$

B.  $Ni < Zn < Mg < Ca$

C.  $Zn < Mg < Ni < Ca$

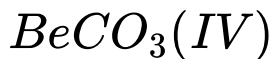
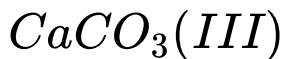
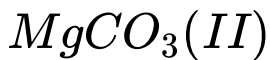
D.  $Ca < Mg < Zn < Ni$

**Answer: B**



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**33.** The following compounds have been arranged in order of their increasing thermal stabilities . Identify the correct order .



A.  $I < II < III < IV$

B.  $IV < II < III < I$

C.  $IV < II < I < III$

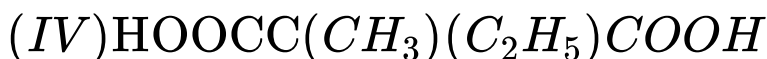
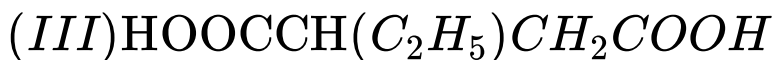
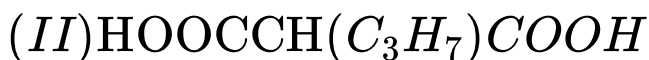
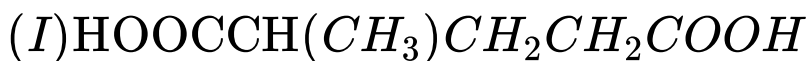
D.  $II < IV < III < I$

**Answer: B**



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34. Among the carboxylic acid shown below, the ones that exhibit stereoisomerism and also form , cyclic anhydrides on heating are



A. (I) and (II)

B. (I) and (III)

C. (II) and (III)

D. (II) and (IV)

**Answer: B**



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**35.** Which of the following statements is correct about heat of combustion?

A. It may be exothermic in some cases and endothermic in other cases



B. It is applicable to gaseous substances only

C. It is always an exothermic reaction

D. Its value does not change with temperature

**Answer: C**



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**36.** An organic compound undergoes first decomposition. The time taken for its decomposition to  $1/8$  and  $1/10$  of its initial concentration are  $t_{1/8}$  and  $t_{1/10}$ , respectively.

What is the value of  $\frac{[t_{1/8}]}{[t_{1/10}]} \times 10$ ?

$(\log_{10} 2 = 0.3)$

A. 0.6

B. 3

C. 0.9

D. 9

**Answer: C**



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**37.** Aniline can be distinguished from methyl amine by its reaction with

A. p - toluene sulphonyl chloride /KOH

B. (i)  $NaNO_2 / HCl, 0 - 5^\circ C$

(ii) alkaline  $\beta$  - naphthol

C. Sn/HCl

D. Acetyl choride

**Answer: B**



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**38.**  $C_2$  - epimer of D - Glucose is

A. D - glucose

B. D - allose

C. D - altrose

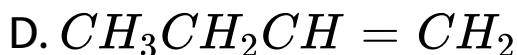
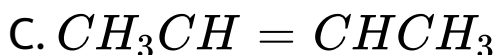
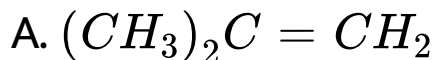
D. D - mannose

**Answer: D**



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**39.** Which of the following alkene in acid catalysed hydration form 2 – methyl propan – 2 – ol ?

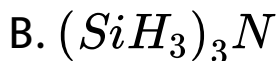
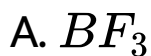


**Answer: A**



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**40.** In which of the following back - bonding is possible



D. both A and B

**Answer: D**



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**41.** The slag obtained during the extraction of copper from copper pyrites is composed mainly of



**Answer: B**



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**42.** The crystal system of a compound with unit cell dimensions  $a=0.387, b=0.387$  and  $c=0.504$  nm and  $\alpha = \beta = 90^\circ$  and  $\gamma = 120^\circ$  is

A. Hexagonal

B. Cubic

C. Rhombohedral



D. Orthorhombic

**Answer: A**



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**43.** Morphine and heroin , both are narcotic analgesics , Heroin may be obtained from morphine by

A. nitration

B. acetylation

C. chlorination

D. none of these

**Answer: B**



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**44.** Which is incorrect statement for  $XeF_2$  ?

A. It has linear structure

B. It is hydrolysed rapidly in aqueous solution of a base

C. It

oxidizes

$Cl^-$  and  $I^-$  to  $Cl_2$  and  $I_2$

respectively

D. It cannot act as  $F^-$  donor

**Answer: D**



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**45.** Which of the following reagents react differently with  $HCHO$ ,  $CH_3CHO$  and  $CH_3COCH_3$  ?

A.  $NH_2OH$

B.  $NH_2NH_2$

C.  $HCN$

D.  $NH_3$

**Answer: D**



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