



# CHEMISTRY

## BOOKS - NTA MOCK TESTS

### NTA NEET SET 74

#### Chemistry

1. What is the binding energy (in J/mol or KJ/mol) of an electron in a metal. Whose

threshold frequency for photon electron is

$$2.5 \times 10^{14} \text{ s}^{-1} ?$$

A. 99.38 KJ/mol

B.  $1.66 \times 10^{-19}$  J/ mol

C.  $2.75 \times 10^{-43}$  J/mol

D.  $7.22 \times 10^{17}$  kJ/mol

**Answer: A**



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2. Which one does not exhibit paramagnetism

A. NO

B.  $NO_2$

C.  $ClO_2$

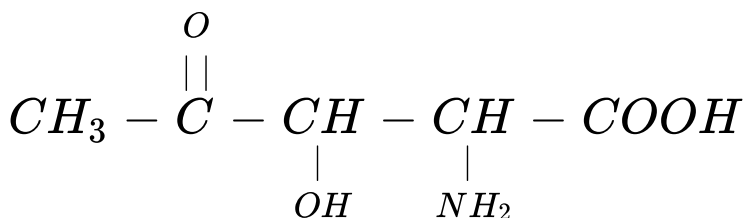
D.  $ClO_2^-$

**Answer: D**



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3. IUPAC name of following organic compound



A. 2 - amino - 3 - hydroxy - 4 - oxopentanoic acid

B. 4 - amino - 3 - hydroxy - 2 - oxopentanoic acid

C. 2 - amino - 3 - hydroxy - 4 - ketopentanoic acid

D. 4 - amino -3 - hydroxy - 2- ketopentanoic  
acid

**Answer: A**



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4. Which of the following statement is incorrect ?

A. Electron affinity of nitrogen and noble gases is zero

B. Cesium is the most electropositive element , while fluorine is the most electronegative element

C. Chlorine has the highest electron affinity among all the elements of periodic table

D. In any period , the atomic radius the noble gas is lowest.

**Answer: D**



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5. Alkali metals impart colour to Bunsen flame due to

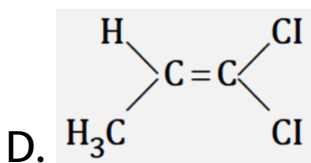
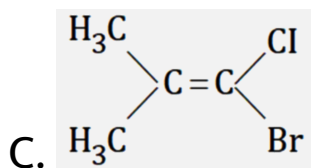
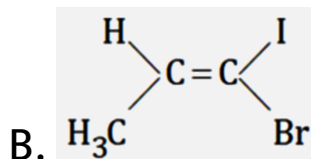
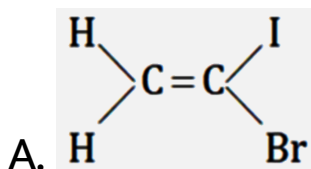
- A. the presence of one electron in their outermost orbital
- B. low ionization energies
- C. their softness
- D. their reducing nature

**Answer: B**



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6. Geometrical isomerism is show by



**Answer: B**



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7. At the same temperature and pressure ,which of the following gases will have highest kinetic energy per molecule (at . Wt . Of hydrogen = 1 , nitrogen = 14 , carbon = 12, oxygen = 16)?

A. Hydrogen gas

B. Nitrogen gas

C. Ethylene gas

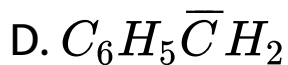
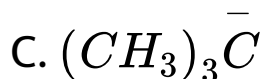
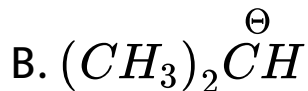
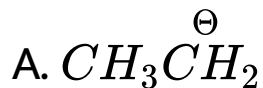
D. All will have equal - average kinetic energy

**Answer: D**



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8. Which of the following is the most stable carbanion?



**Answer: D**



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**9. Which member of group 13 does not exhibit the group valency in its compounds?**

A. Boron

B. Aluminium

C. Gallium

D. Thallium

**Answer: D**



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**10.** Body centred cubic and face centred cubic unit cells have  $n_1$  and  $n_2$  effective number of atoms. Which one the following  $(n_1, n_2)$  combination is correct ?

A. (4,1)

B. (4,2)

C. (1,4)

D. (2,4)

**Answer: D**



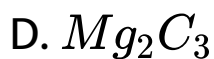
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**11.** Which of the following carbides reacts with  $H_2O$  to form propyne ?

A.  $Al_4C_3$

B.  $CaC_2$

C.  $SiC$



**Answer: D**



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**12.** The reaction of t - butyl chloride and sodium ethoxide gives mainly

A. t - butyl ethyl ether

B. 2,2 - dimethylbutane

C. 2 - methylprop -1 - ene

D. isopropyl n- propyl ether

**Answer: C**



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**13.** Which of the following is not an ionic halide ?



D.  $UF_6$

**Answer: D**



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**14.** The equilibrium constant for the reaction  $N_2(g) + O_2(g) \rightleftharpoons 2NO(g)$  is  $4.0 \times 10^{-4}$  at  $2000K$ . In the presence of a catalyst, the equilibrium is attained 10 times faster. Therefore, the equilibrium constant in presence of the catalyst at  $2000K$  is



A.  $40 \times 10^{-4}$

B.  $4 \times 10^{-4}$

C.  $4 \times 10^{-3}$

D. Difficult to compute without more data

**Answer: B**



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**15.** Which of the following would cause the percent ionization of weak acid to increase ?

A. Addition of a strong acid

B. Addition of a salt containing its  
conjugate base

C. Diluting with more water

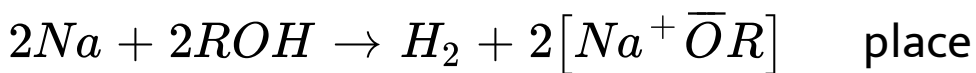
D. The percent ionization of a weak acid is a  
constant and cannot be increased .

**Answer: C**



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16. Sodium reacts with alcohol as given below



the types of alcohol into decreasing order of reactivity towards Na

A.  $1^\circ > 2^\circ > 3^\circ$

B.  $1^\circ > 3^\circ > 2^\circ$

C.  $2^\circ > 3^\circ > 1^\circ$

D.  $3^\circ > 2^\circ > 1^\circ$

**Answer: A**



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17. The possible number of structural and stereoisomers for the complex  $[MBr_2Cl_2]SO_2$  is

A. 2

B. 4

C. 5

D. 7

**Answer: C**



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18. The hydrocarbon (molecular mass = 70) after reduction and chlorination gives a single monochloride . The hydrocarbon is

- A. pent - 1- ene
- B. pent - 2- ene
- C. 1,1 - dimethylcycloprop -1 - ene
- D. cyclopentane

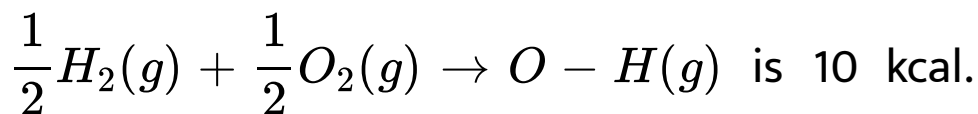
**Answer: A**



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19. The dissociation energies of  $H_2$  and  $O_2$  are 104 and 118 kcal mol<sup>-1</sup> respectively. The

heat of reaction



The bond energy of O - H bond is

- A. 101 kcal/mol
- B. 111 kcal/mol
- C. 10.1 kcal/mol
- D. 11.1 kcal/mol

**Answer: A**



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20. Which of the following plots represents correctly variation of equivalent conductance ( $\Lambda$ ) with dilution for a strong electrolyte ?

A. 

B. 

C. 

D. 

**Answer: B**



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21. Which bond angle  $\theta$  would result in the maximum dipole moment for the triatomic  $YXY$ ?

A.  $\theta = 90^\circ$

B.  $\theta = 120^\circ$

C.  $\theta = 180^\circ$

D.  $\theta = 150^\circ$



**Answer: A**



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**22.** Which of the following sets of quantum numbers represent an impossible arrangement :-

- |     | $n$ | $l$ | $m$ | $m_s$         |
|-----|-----|-----|-----|---------------|
| (A) | 3   | 2   | -2  | $\frac{1}{2}$ |
| (B) | 4   | 0   | 0   | $\frac{1}{2}$ |
| (C) | 3   | 2   | -3  | $\frac{1}{2}$ |
| (D) | 5   | 3   | 0   | $\frac{1}{2}$ |

A.

	$n$	$l$	$m$	$s$
	3	2	-2	$1/2$

$$\text{B.} \quad \begin{array}{cccc} n & l & m & s \\ 4 & 0 & 0 & 1/2 \end{array}$$

$$\text{C.} \quad \begin{array}{cccc} n & l & m & s \\ 3 & 2 & -3 & 1/2 \end{array}$$

$$\text{D.} \quad \begin{array}{cccc} n & l & m & s \\ 5 & 3 & 0 & 1/2 \end{array}$$

**Answer: C**

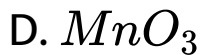
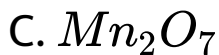
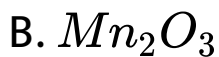


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**23.** On adding  $KMnO_4$  to cold conc.  $H_2SO_4$ ,

it gives

A.  $MnO_2$



**Answer: C**



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**24.** van't Hoff factor more than unity indicates that the solute in solution has

A. associated

B. dissociated

C. both

D. cannot say anything

**Answer: B**



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**25.** Which of the following reagents react (s)

with  $C_6H_5CH_2CONH_2$  to form

$C_6H_5CH_2CN$  ?

A.  $P_2O_5$

B.  $SOCl_2$

C.  $POCl_3$  or  $PCl_5$

D. All of the above

**Answer: D**



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**26.** When aniline is treated with fuming sulphuric acid at 475 K, it gives

A. sulphanilic acid

B. aniline sulphate

C. o - aminobenzenesulphonic acid

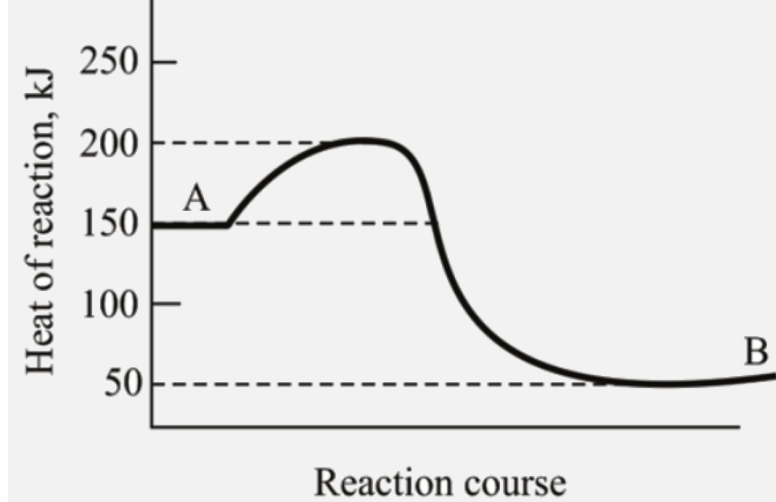
D. m - aminobenzenesulphonic acid

**Answer: A**



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**27.** Heat of conversion of substance A to substance B is equal to (kJ)



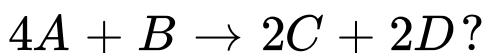
- A.  $- 50$
- B.  $- 100$
- C.  $- 150$
- D.  $+ 200$

**Answer: B**



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28. Which of the following statement is not correct for the reaction,



- A. The rate of disappearance of B is one - fourth of the of disappearance of A
- B. The rate of appearance of C is two times the rate of disappearance of B
- C. The rate of formation of D is half the rate of consumption of A



D. The rates of formation of C and D are not equal

**Answer: D**



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**29.** An electrochemical cell stops working after sometime because

A. one of the electrodes is eaten away

B. electrode potentials of both the electrodes go on increasing

C. electrode potential of both the electrodes go on decreasing

D. electrode potentials of the two electrodes becomes equal in magnitude

**Answer: D**



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30. The pH of a solution which is twice as acidic as pure water is (Given :  $\log 2 = 0.3$ )

A. 7.0

B. 3.5

C. 6.7

D. 14.0

**Answer: C**



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31. The heat of solution of one mole of  $Na_2SO_4 \cdot 10H_2O$  is  $-78.7 \text{ kJ}$ , and that of dehydration,  $-81.6 \text{ kJ}$ . The heat of solution (kJ) of anhydrous sodium sulphate is

A.  $+2.9 \text{ kJ}$

B.  $+160.3 \text{ kJ}$

C.  $-2.9 \text{ kJ}$

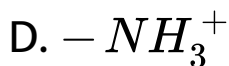
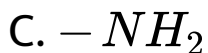
D.  $-160.3 \text{ kJ}$

**Answer: A**



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32. the acidic group in aqueous solution of glycine is



**Answer: D**



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33. The cleansing action of soap is due to the

- A. the presence of  $Na^+$  ions in water
- B. its dissociation into ions in water
- C. the formation of associated colloids
- D. its action as emulsifying agent

**Answer: D**



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**34.** The rate constant of a reaction has the units as that of rate of reaction . The reaction order is

A. 0

B. 1

C. 2

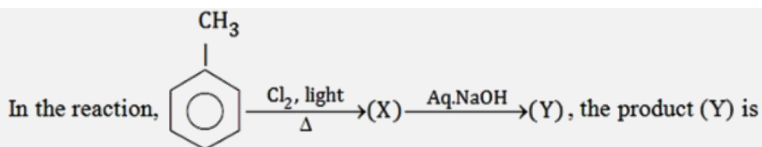
D. 3

**Answer: A**



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35. In the reaction



, the

product (Y) is

- A. o - cresol
- B. p - cresol
- C. 2,4 - dihydroxytoluene
- D. benzoic acid

**Answer: D**



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36. Hydrolysis of phenyl isocyanide forms :

A. benzoic acid

B. formic acid

C. acetanilide

D. acetic acid

**Answer: B**



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37. Which one of the following is a copolymer ?

A. Buna - S

B. Polyvinyl chloride

C. Polypropylene

D. Poly - cis - isoprene

**Answer: A**



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**38.** The total number of stereoisomers in open-chain aldohexose (such as glucose) is :

A. 8

B. 4

C. 16

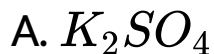
D. 2

**Answer: C**



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39. Which of the following salts undergoes hydrolysis ?



**Answer: D**



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40. When aniline is treated with bromine - water , it forms

A. 2 - bromoaniline

B. 4 - bromoaniline

C. mixture of 2 and 4 - bromoaniline

D. 2,4,6 tribromoaniline

**Answer: D**



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41. Which of the following pair form the same osazone ?

- A. Glucose and fructose
- B. Glucose and galactose
- C. Glucose and arabinose
- D. Lactose and maltose

**Answer: A**



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42. The crystalline compound  $A_xB_y$  is characterized by a body - centred cell. The compound has the formula

A. AB

B.  $A_4B$

C.  $A_8B$

D.  $AB_4$

**Answer: A**



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43. The reaction of  $Br_2/P$  or  $Cl_2/P$  with carboxylic acid to form  $\alpha$ -halogenated acid, is called

A. Hunsdicker reaction

B. Hell - Vohlard - Zelinsky reaction

C. Claisen reaction

D. Kolbe's reaction

**Answer: B**



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**44.** Often in water bodies subjected to sewage pollution, fishes die because of the:

A. Foul smell

B. Reduction in dissolved oxygen caused by microbial activity

C. Clotting of their gills by solid substances

D. pathogens released by the sewage

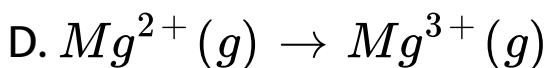
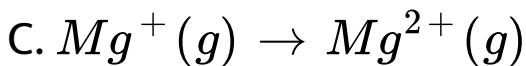
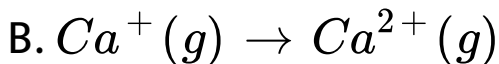
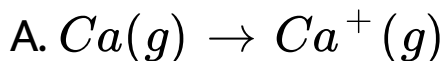
**Answer: B**





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45. Which of the following involves maximum amount of energy ?



**Answer: D**



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