



CHEMISTRY

BOOKS - NTA MOCK TESTS

NEET MOCK TEST 9

Chemistry

1. Which of the following is incorrect statement about OSF_4

?

A. S atom has sp^3d hybridization

B. OSF_4 has distorted trigonal-pyramidal shape

C. O atom is present at the equatorial position.

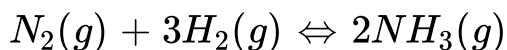
D. There is no lone pair on S.

Answer: B



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2. Consider the following reaction equilibrium



Initially, 1 mole of N_2 and 3 moles of H_2 are taken in a 2 flask. At equilibrium state if, the number of moles of N_2 is 0.6, what is the total number of moles of all gases present in the flask ?

A. 0.8

B. 1.6

C. 3.2

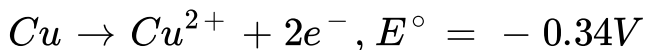
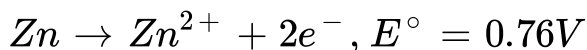
D. 6.4

Answer: C

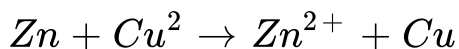


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3. The standard potential E° for the half reactions are as :



The standard cell voltage for the cell reaction is ?



A. 0.42V

B. $-0.42v$

C. $-1.1V$

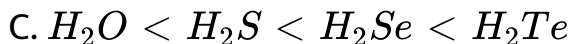
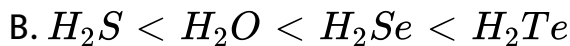
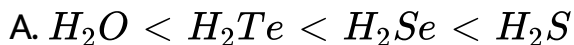
D. $1.10V$

Answer: D



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4. The increasing order of volatility of hydrides of group 16 elements is -



Answer: C



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5. The atomic radii of transition elements from Cr to Cu are almost equal because

- A. Increased effective nuclear charge is balanced by decreased screening effect of electrons in $(n-1)$ d-orbitals
- B. Increased effective nuclear charge is balanced by increased screening effect of $(n-1)$ d-orbitals
- C. Decreased effective nuclear charge is balanced by increased screening effect of electrons in $(n-1)$ d-

orbitals

D. None of these

Answer: B



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6. Benzene diazonium chloride on boiling with dilute sulphuric acid, gives

A. Toluene

B. Benzoic acid

C. Benzene

D. Phenol

Answer: D



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7. 2mole of PCl_5 were heated in a closed vessel of 2 litre capacity. At equilibrium 40% of PCl_5 dissociated into PCl_3 and Cl_2 . The value of the equilibrium constant is:

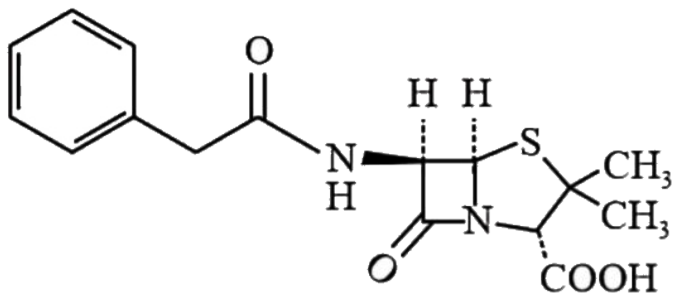
- A. 0.53
- B. 0.267
- C. 2.63
- D. 5.3

Answer: B



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8. The structure given below is known as



A. Penicilline F

B. Penicillin G

C. Penicillin K

D. Sulphadiazine

Answer: B



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9. What is the Ph of the NaOH sollution when 0.04 gm of it dissolved in water and made to 100ml solution

A. 2

B. 1

C. 13

D. 12

Answer: D



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10. The correct order of increasing thermal stability of the given compound is

I. HF

II. HBr

III. HCl

IV. HI

A. $I < II < III < IV$

B. $IV < II < III < I$

C. $IV < II < I < III$

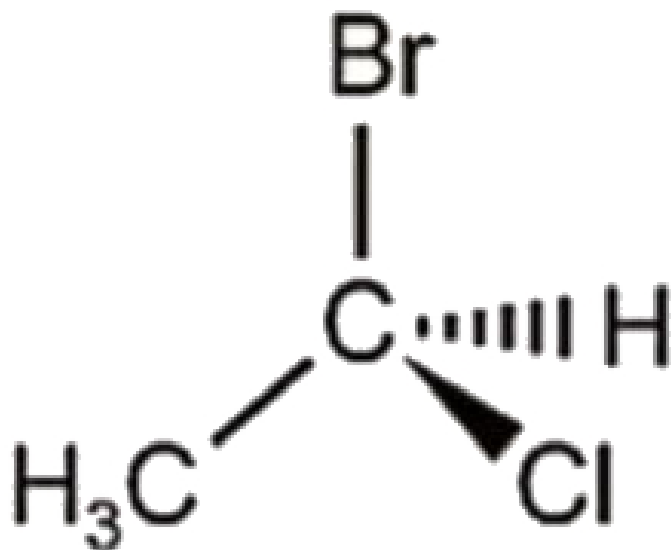
D. $II < IV < I < III$

Answer: B



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11. The configuration of the compound



is

A. R

B. S

C. E

D. Z

Answer: A



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12. The first ionisation energies of magnesium and aluminium are respectively given by

A. 7.64, 5.98

B. 7.64, 7.64

C. 5.98, 7.64

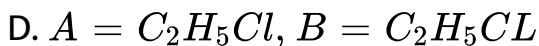
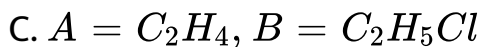
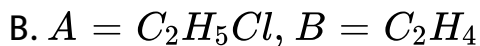
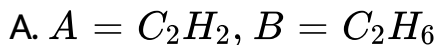
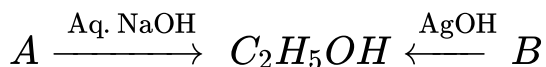
D. 5.98, 5.98

Answer: A



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13. Identify A and B in the following reactions



Answer: D



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14. Which is not true about borax ?

- A. It is a useful primary standard for titrating against acids
- B. One mole of borax can be used as a buffer
- C. Aqueous solution of borax can not be used as buffer
- D. It is made up of two triangular BO_3 units and two tetrahedral BO_4 units

Answer: C



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15. Which of the following nuclear reactions will generate an isotope ?

- A. Neutron particle emission

B. Positron emission

C. α – particle emission

D. β particle emission

Answer: A



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16. A piston filled with 0.04 mol of an ideal gas expands reversibly from 50.0mL to 375mL at a constant temperature of 37.0°C . As it does so, it absorbs 208J of heat. The value of q and w for the process will be:

$$(R = 8.314\text{J/molK})(\ln 7.5 = 2.01)$$

A. $q = -208\text{J}, w = +208\text{J}$

B. $q = + 208J, w = + 208J$

C. $q = + 208J, w = - 208J$

D. $q = - 208J, w = - 208J$

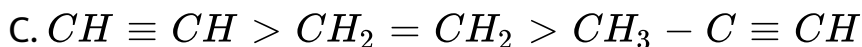
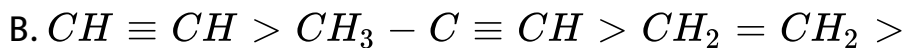
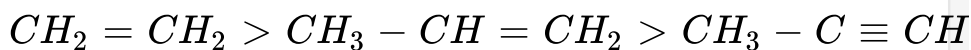
Answer: C

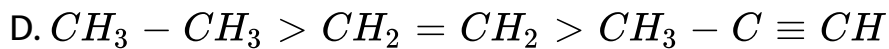


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17. Which among the following depicts the correct order of acidity ?

A.

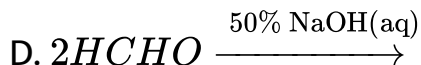




Answer: B

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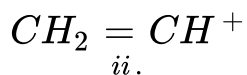
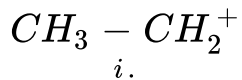
18. Which of the following is the disproportionation redox reaction ?



Answer: D



19. Determine the stability order of given carbocations :



A. $i > ii$

B. $ii > i$

C. $i = ii$

D. Cannot be predicted

Answer: A



20. An ether is more volatile than an alcohol having the same molecular formula. This is due to -

- A. Dipolar character of ether
- B. Alcohols having resonance structure
- C. Intermolecular hydrogen bonding in ethers
- D. Intermolecular hydrogen bonding in alcohols

Answer: D



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21. An electron with velocity v is found to have a certain value of de Broglie wavelength. The velocity that the

neutron should process to have the same de Broglie wavelength is

A. $\frac{1840}{v}$

B. $1840v$

C. $\frac{v}{1840}$

D. v

Answer: C



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22. An amino acid having isoelectric point below 7 (at $25^{\circ}C$), when kept in a alkaline medium present in an electric field will show migration towards -

A. Cathode

B. Anode

C. Either Cathode / Anode

D. No migration

Answer:



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23. Pure aniline is a :

A. Brown coloured liquid

B. Colourless liquid

C. Brown coloured solid

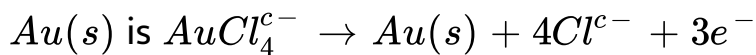
D. Colourless solid

Answer: B



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24. Suppose that gold is being plated onto another metal in a electrolytic cell. The half – cell reaction producing the



If a $0.30 - A$ current runs for $1.50min$, what mass of $Au(s)$ will be plated, assuming all the electrons are used in the reduction of $AuCl_4$?

A. 0.184g Au

B. 0.551 g Au

C. 1.84 g Au

D. 0.613 g Au

Answer: A



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25. Which of the following liquid pairs shows a positive deviation from Raoult's law?

A. Water - hydrochloric acid

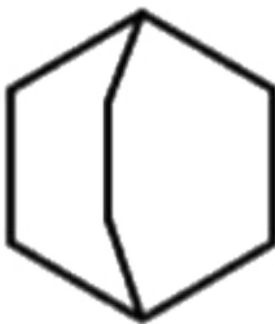
B. Water-nitric acid

C. Acetone -chloroform

D. Benzene-methanol

Answer: D

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26. The compound is shown by which of the following names

- A. Bicyclo-[2,2,2]octane
- B. Bicyclo-[2,2,1] octane
- C. Bicyclo-[1,2,1] octane
- D. Bicyclo-[1,1,1] octane

Answer: A



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27. A chemistry student trying to detect the metallic ion in a salt, makes a paste on a clean platinum wire loop of the salt with concentrated HCl. When he takes a small amount of this paste and keeps it in a non-luminous Bunsen flame, the colour of the flame changes to grassy green. He should, therefore, conclude that the metal is

- A. Barium
- B. Calcium
- C. Potassium
- D. Strontium

Answer: A



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28. The table gives the first four ionization energies in kJmol^{-1} of four elements (the letters are not the symbols for th elements) . Which element occurs in Group 13 of the periodic table ?

A.	Element P	IE_1	IE_2	IE_3	IE_4
		502	4569	6919	9550
B.	Element Q	IE_1	IE_2	IE_3	IE_4
		526	7305	11822	—
C.	Element R	IE_1	IE_2	IE_3	IE_4
		584	1823	2751	11584
D.	Element S	IE_1	IE_2	IE_3	IE_4
		796	1583	3238	4362

Answer: C

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29. The values of dissociation constant of some bases are given below. Which is the weakest base ?

A. 1.8×10^{-5}

B. 4.8×10^{-10}

C. 7.2×10^{-11}

D. 7.07×10^{-7}

Answer: C

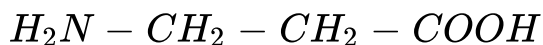
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30. Which of the following pair of isomers cannot be separated by fractional crystallization or distillation or chromatography?

A. Maleic acid and Fumaric acid

B. (+) – Tartaric acid and meso - tartaric acid

C. $CH_3 - \underset{\substack{| \\ NH_2}}{C} H - COOH$ and



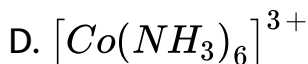
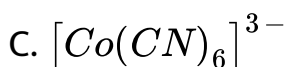
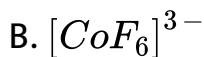
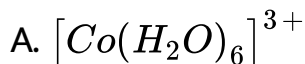
D. (+) - lactic acid (-) - lactic acid

Answer: D



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31. Which of the following complex ions absorbs the light of minimum wavelength ?



Answer: C



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32. The enthalpy of hydrogenation of cyclohexene is $-119.5 kJ mol^{-1}$. If resonance energy of benzene is $-150.4 kJ mol^{-1}$, its enthalpy of hydrogenation would be :

A. $-358.5 \text{ kJ mol}^{-1}$

B. $-508.9 \text{ kJ mol}^{-1}$

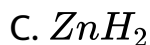
C. $-208.1 \text{ kJ mol}^{-1}$

D. $-269.9 \text{ kJ mol}^{-1}$

Answer: C

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33. Which of the following is an example of interstitial hydride?



D. H_2O

Answer: C



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34. For a first order reaction, the half-life period is independent of

A. Zero

B. First

C. Second

D. Third

Answer: B



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35. A redox reaction in which two molecules of an aldehyde reacts to produce a primary alcohol and a carboxylic acid using a hydroxide base is called :

- A. Cannizzaro reaction
- B. Acetylation
- C. Decarboxylation
- D. None of these

Answer: A



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36. Which of the following mineral does not contain Al?

A. Cryolite

B. Mica

C. Feldspar

D. Fluorspar

Answer: D



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37. A and B are ideal gases. The molecular weights of A and B are in the ratio of 1:4. The pressure of a gas mixture containing equal weights of A and B is P atm. What is the partial pressure (in atm.) of B in the mixture

A. $\frac{P}{5}$

B. $\frac{P}{2}$

C. $\frac{P}{2.5}$

D. $\frac{3P}{4}$

Answer: A



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38. The most organised crystal system is

A. Orthorhombic

B. Cubic

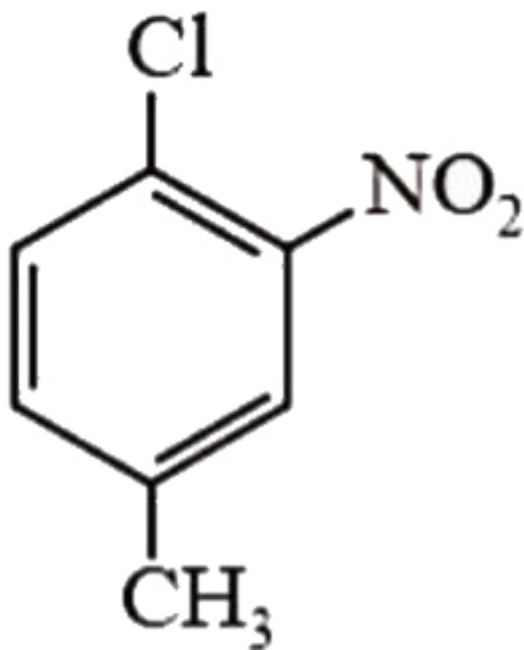
C. Monoclinic

D. Hexagonal

Answer: B

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39. The IUPAC name of



- A. 1-Chloro-2-nitro-4-methyl benzene
- B. 1-Chloro-4-methyl-2-nitrobenzene
- C. 2-Chloro-1-nitro-5-methyl benzene
- D. m-Nitro-p-chlorotoluene

Answer: B

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40. A gas occupies a volume of 300 cm^3 at $27.^\circ \text{ C}$ and 620 mm pressure . The volume of gas at $47.^\circ \text{ C}$ and 640 mm pressure is

- A. 400 cc
- B. 510 cc

C. 310 cc

D. 350 cc

Answer: C



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41. Which of the following is not isostructural with $SiCl_4$?



Answer: D

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42. The number of unpaired electrons calculated in $[Co(NH_3)_6]^{3+}$ and $[CoF_6]^{3-}$ are

A. 4 and 4

B. 0 and 2

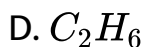
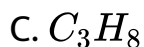
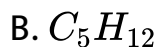
C. 2 and 4

D. 0 and 4

Answer: D

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43. A gaseous alkane on complete combustion gives CO_2 and H_2O . If the ratio of moles O_2 needed for combustion and moles of CO_2 formed is 5:3 find out the formula of alkane.



Answer: C



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44. The rate of a reaction quadruples when the temperature changes from 300 to 310 K. The activation energy of this reaction is :

(Assume Activation energy and pre-exponential factor are independent of temperature,

$$\ln(2) = 0.693, R = 8.314 J - mol^{-1} K^{-1})$$

A. $53.6 kJ mol^{-1}$

B. $214.4 kJ mol^{-1}$

C. $107.2 kJ mol^{-1}$

D. $52.6 kJ mol^{-1}$

Answer: C



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45. Assuming very dilute aqueous solution of urea, calculate the vapour pressure of solution (in mm of Hg) of 0.1 moles of urea in 180 grams of water at $25^{\circ}C$ in (The vapour pressure of water at $25^{\circ}C$ is 24 mm Hg)

A. 2.376

B. 20.76

C. 23.76

D. 24.76

Answer: C



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