

CHEMISTRY

BOOKS - NTA MOCK TESTS

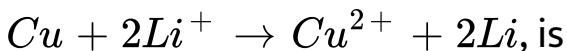
NEET MOCK TEST 21

Chemistry

1. Consider the following E° values:

$$E_{Li^+ | Li}^\circ = -3.05V, E_{Cu^{2+} | Cu}^\circ = +0.34V$$

Under similar conditions, the potential for the reaction



A. $-3.39V$

B. $+3.39V$

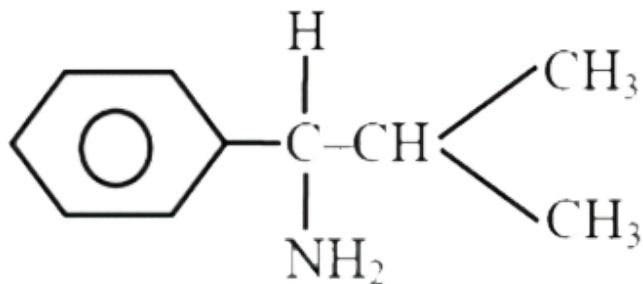
C. $-2.69V$

D. $+2.69V$

Answer: A

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2. The IUPAC name of the compound is :



A. 1 - amino -1-phenyl -2- methylpropane

B. 2 - methyl-1-phenylpropan -1- amine

C. 2 - methyl -1- amino -1- phenylpropane

D. 1 -isopropyl -1- phenylmethyl amine

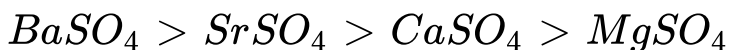
Answer: B



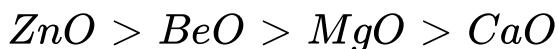
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3. Select the correct order for the given properties -

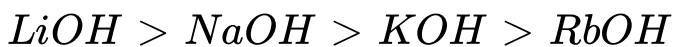
(I) Thermal stability:



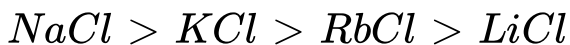
(II) Basic Nature :



(III) Solubility in water :



(IV) Melting point :



A. I, IV

B. I, II and IV

C. II, III

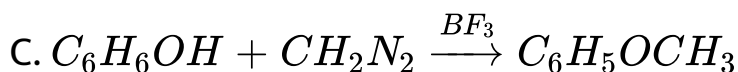
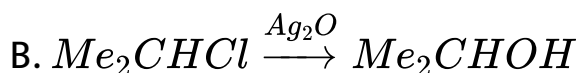
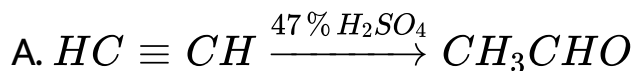
D. All are correct

Answer: A

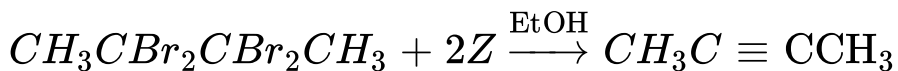


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4. The reaction with incorrect major product is -



D.



Answer: A



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5. Which of the following represent the cosolvating effect?

A. The acidic strength HF increases in the presence of BF_3

B. The acidity of NH_4^+ is enhanced in the presence of Cu^{2+}

C. The acidity of H_3BO_3 is increased in the presence of glycerol

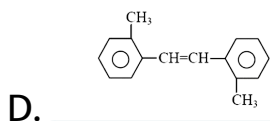
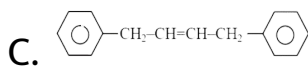
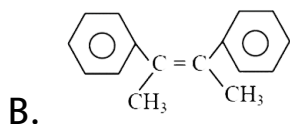
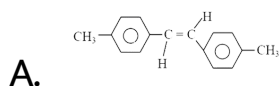
D. All of the given are examples of cosolvating effect

Answer: D



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6. An alkene (A) $C_{16}H_{16}$ on ozonolysis gives only one product (B) (C_8H_8O). Compound (B) on reaction with NH_2OH followed by reaction with H_2SO_4, Δ gives N - methyl benzamide the compound 'A' is -

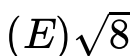
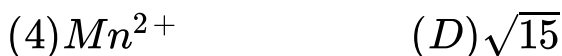


Answer: B

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7. Match List - I with List - II and select the correct answer using codes given below the lists -

List - I (Metal ions) List - II Magnetic moment (B.M.)



A. 1 - (B), 2 - (C), 3 - (E), 4 - (D)

B. 1 - (B), 2 - (C), 3 - (E), 4 - (A)

C. 1 - (D), 2 - (C), 3 - (E), 4 - (A)

D. 1 - (D), 2 - (E), 3 - (C), 4 - (A)

Answer: C



8. Which is an incorrect statement ?

- A. Diamond is unaffected by conc. Acids, but graphite reacts with hot conc. HNO_3 forming mellitic acid $C_6(COOH)_6$
- B. CO is toxic because it forms a complex with hemoglobin in the blood
- C. C_3O_2 , carbon suboxide, is a foul - smelling gas
- D. $COCl_2$ is called tear gas.

Answer: D

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9. Which test is used to distinguish aldehydes from Ketones?

- A. Tollen's test
- B. Fehling's test
- C. Both (A) & (B)
- D. None of the above

Answer: C

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10. Greater is the protective power of lyophilic colloid

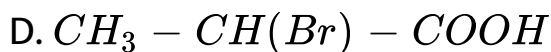
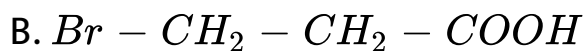
- A. Lesser is its gold number
- B. Greater is its gold number
- C. Either of the above
- D. None of these

Answer: A

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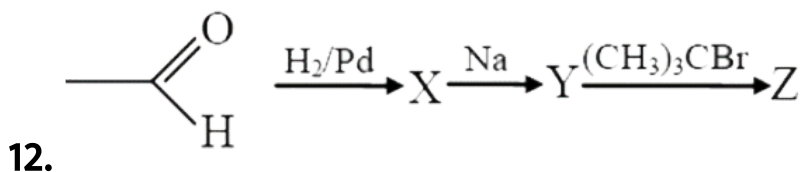
11. Acrylic acid reacts with HBr to give :





Answer: B

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In this sequence z is mainly -

A. Isobutylene

B. Isobutane

C. Isobutyl acetate

D. Ethyl tert. Butyl ether

Answer: A



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13. Factors affecting K_c is -

A. Increasing concentration of the reactant

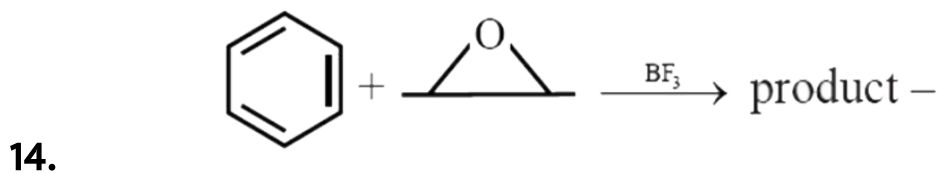
B. Presence of catalyst

C. Method of writing balanced equation (or stoichiometry of reaction)

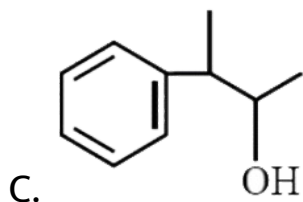
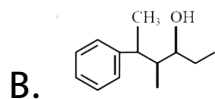
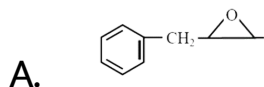
D. Time taken by the chemical reaction

Answer: C

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product -



D. None of the above

Answer: C



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15. CH_3CONH_2 & $HCONHCH_3$ are called

- A. Position isomers
- B. Chain isomers
- C. Tautomers
- D. Functional isomers

Answer: D



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16. For the reaction : $2N_2O_5 \rightarrow 4NO_2 + O_2(g)$ if the concentration of NO_2 increases by $5.2 \times 10^{-3} M$ in 100 sec, then the rate of reaction is :

A. $1.3 \times 10^{-5} Ms^{-1}$

B. $0.5 \times 10^{-4} Ms^{-1}$

C. $2 \times 10^{-3} Ms^{-1}$

D. $2.5 \times 10^{-5} Ms^{-1}$

Answer: A



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17. For the formation of terylene the number of moles of ethylene glycol required per mole of terephthalic acid is

A. 1

B. 2

C. 3

D. 3

Answer: A



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18. In the laboratory, H_2O_2 is prepared by the action of

A. MnO_2 is added to dilute cold H_2SO_4

B. BaO_2 is added to CO_2 bubbling through cold water

C. PbO_2 is added to an acidified solution of $KMnO_4$

D. Na_2O_2 is added to boiling water

Answer: B



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19. At certain Hill-station pure water boils at $99.725^\circ C$.

If K_b for water is $0.513^\circ Ckgmol^{-1}$, the boiling point of

0.69*m* solution of urea will be:

A. 100.074° *C*

B. 103° *C*

C. 100.359° *C*

D. Un predicatable

Answer: A



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20. Which of the following is a water soluble vitamin ?

A. Retinol

B. Riboflavin

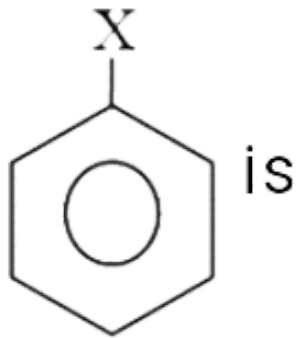
C. Tocopherol

D. Phylloquinone

Answer: B

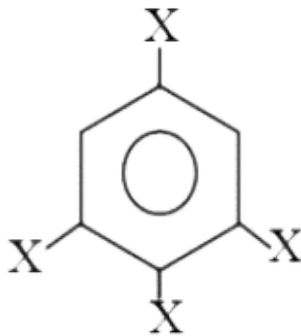


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21. The dipole moment of

is 1.5 D.



The dipole moment of _____ is

A. 1 D

B. 1.5 D

C. 2.25 D

D. 3 D

Answer: B



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22. The statement which is false among the following is

- A. Silicon carbide has a three dimensional structure with each silicon and carbon atom being tetrahedrally surrounded by four atoms of the other kind
- B. Carbon can form $C = S$ bond because C has the ability to form $d\pi - d\pi$ bond

C. Boron nitride has structure similar to that of graphite

D. Graphite conducts electricity because of availability of delocalised π electrons

Answer: B

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23. Which of the following compounds will exhibit geometrical isomerism?

A. 1-phenyl-2-butene

B. 3-phenyl-1-butene

C. 2 - phenyl -1- butene

D. 1, 2-diphenyl -1- propene

Answer: A



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24. Select the correct matching -

List - I (Metal ions)	List - II Magnetic moment (BM)
-----------------------	--------------------------------

(1) XeF_4

(A) Pyramidal

(2) XeF_6

(B) T-shape

(3) XeO_3

(C) Distorted octahedral

(4) $XeOF_2$

(D) Square planar

A. 1 - D, 2 - C, 3 - A, 4 - B

B. 1 - A, 2 - B, 3 - C, 4 - D

C. 1 - B, 2 - B, 3 - C, 4 - D

D. 1 - C, 2 - A, 3 - A, 4 - B

Answer: A



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25. The no. of σ bonds in the compound P_4O_{10} is -

A. 1

B. 4

C. 3

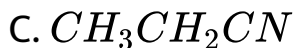
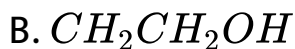
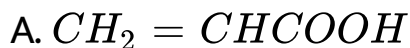
D. 16

Answer: D

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26. $CH_3CH_2COOH \xrightarrow{\text{Red P/HI}}$ is $\xrightarrow{\text{alc. KOH}}$ Product .

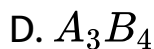
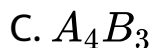
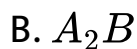
Product



Answer: A

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27. In a solid AB having the $NaCl$ structure, A atom occupies the corners of the cubic unit cell. If all the face-centred atoms along one of the axes are removed, then the resultant stoichiometry of the solid is

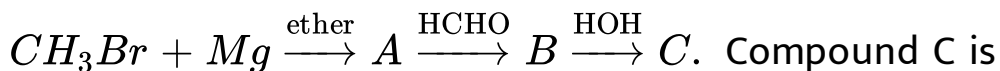


Answer: D



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28. Consider the following reaction



A. Acetic acid

B. Acetaldehyde

C. Ethyl alcohol

D. Formic acid

Answer: C



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29. One among the following is an incorrect statement -

A. Molality of a solution is dependent on the temperature

B. Molarity of a solution is dependent on the temperature

C. Normality of 0.5 M aqueous solution of $H_2C_2O_4 \cdot 2H_2O$ is 1 N

D. Molality of a solution relates moles of solute and mass of solvent

Answer: A



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30. N_2 and O_2 are converted into monocations, N_2^+ and O_2^+ respectively. Which of the following is wrong?

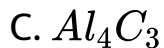
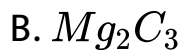
- A. In N_2^+ , the $N - N$ bond weakens
- B. In O_2^+ , the $O - O$ bond order increases
- C. In O_2^+ , the paramagnetism decreases
- D. N_2^+ becomes diamagnetic

Answer: D



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31. Which of the following compounds on hydrolysis gives propyne?

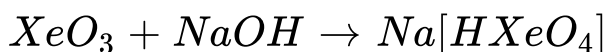


Answer: B



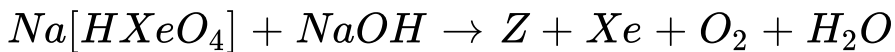
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32. Xenon trioxide (XeO_3) forms xenate ion in alkaline medium.

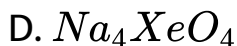
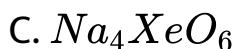
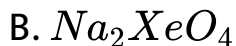
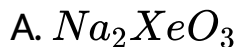


But the xenate ions slowly disproportionate in alkaline solution

as



The compound Z is expected to be



Answer: C



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33. Mn^{2+} can be converted into Mn^{7+} by reacting with

A. SO_2

B. Cl_2

C. PbO_2

D. $SnCl_2$

Answer: C



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34. Base catalysed condensation between the following compounds followed by dehydration gives methyl vinyl ketone :

A. $HCHO$ and CH_3COCH_3

B. $HCHO$ and CH_3CHO

C. Two molecules of CH_3CHO

D. Two molecules of CH_3COCH_3

Answer: A



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35. In which of the following transition, the wavelength will be minimum :

A. $n = 6$ to $n = 4$

B. $n = 4$ to $n = 2$

C. $n = 3$ to $n = 1$

D. $n = 2$ to $n = 1$

Answer: C



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36. The increasing order of the rate of HCN addition compound $A - D$ is

A. $HCHO$

B. CH_3COCH_3

C. $PhCOCH_3$

D. $PhCOPh$

A. $A < B < C < D$

B. $D < B < C < A$

C. $D < C < B < A$

D. $C < D < B < A$

Answer: C



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37. CH_3NH_2 (0.12 mole, $pK_b=3.3$) is added to 0.08 moles of HCl and the solution is diluted to one litre, resulting pH of solution is :

A. 10.7

B. 3.6

C. 10.4

D. 11.3

Answer: C



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38. 64 g non - volatile solute is added to 702 g benzene.

The vapour pressure of benzene has decreased from 200 mm of Hg to 180 mm of Hg. Molecular weight of the solute is

A. 128

B. 64

C. 96

D. 256

Answer: B



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39. Malonic acid and succinic acids are distinguished by:

A. Heating

B. $NaHCO_3$

C. Both (A) & (B)

D. None of these

Answer: A





40. Match the geometry (given in column A) with the complexes (given in column B) in :

Geometry : A

Complex : B

I Octahedral (P) $[Ni(CN)_4]^{2-}$

II Square planar (Q) $Ni(CO)_4$

III Tetrahedral (R) $[Fe(CN)_6]^{4-}$

A. I - P, II - Q, III - R

B. I - R, II - P, III - Q

C. I - R, II - Q, III - P

D. I - Q, II - P, III - R

Answer: B



41. You are given a mixture of ZnS and PbS . The two compounds can be separated by

A. froth flotation on adding $NaCN$

B. electromagnetic separation

C. handpicking

D. leaching with $NaCN$

Answer: A



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42. A salt of NaX $\xrightarrow{MgCl_2}$ white ppt. on boiling. Thus, anion X is :

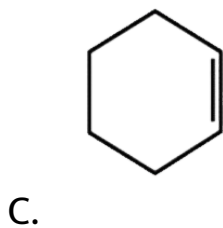
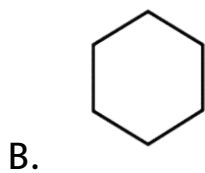
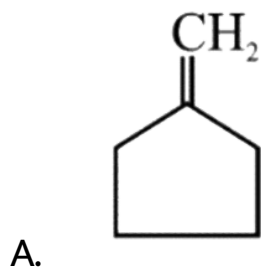
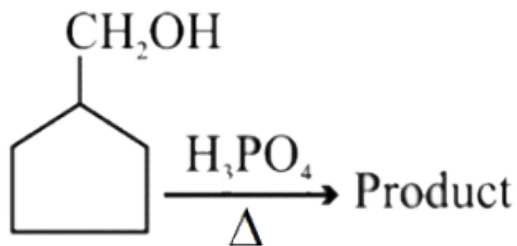


Answer: A

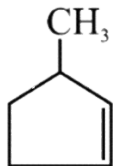


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43. The product in the given reaction is :



D.

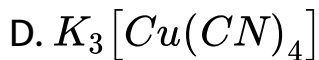
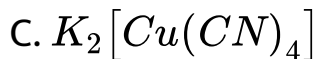
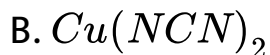
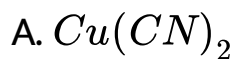


Answer: C



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44. CuSO_4 reacts with excess KCN to form



Answer: D



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45. If 30 ml of H_2 and 20 ml of O_2 react to form water, what is left at the end of the reaction ?

A. 10 mL of H_2

B. 5 mL of O_2

C. 10 mL of O_2

D. 5 mL of O_2

Answer: D



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