



CHEMISTRY

BOOKS - NTA MOCK TESTS

NEET MOCK TEST 18

Chemistry

1. Concentrated aqueous solution of sulphuric acid is 98 % by mass and has density of 1.80g mL^{-1} . What is the volume of acid required to make one liter $0.1\text{M H}_2\text{SO}_4$ solution ?

- A. 16.65 mL
- B. 22.20 mL
- C. 5.55 mL
- D. 11.10 mL

Answer: C

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2. When copper nitrate is strongly heated, the compound obtained is

A. Copper nitrite

B. Copper

C. Copper nitride

D. Copper oxide

Answer: D

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3. $[Fe(H_2O)_6]^{2+}$ and $[Fe(CN)_6]^{4-}$ differ in :

A. Geometry, magnetic moment

B. Magnetic moment and colour

C. Geometry and hybridization

D. None of these

Answer: B



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4. A gas expands from $3dm^3$ to $5dm^3$ against a constant pressure of 3 atm. The work done during expansion is used to heat 10 mol of water at a temperature of 290 K. Calculate final temperature of water. Specific heat of water = $4.184Jg^{-1}K^{-1}$

A. 290.81 K

B. 290.61 K

C. 290.41 K

D. 290.21 K

Answer: A

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5. Reaction of methyl bromide with aqueous sodium hydroxide involves

- A. Racemization
- B. S_N1 mechanism
- C. Retention of configuration
- D. S_N2 mechanism

Answer: D

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6. Melmac is a polymer of melamine and

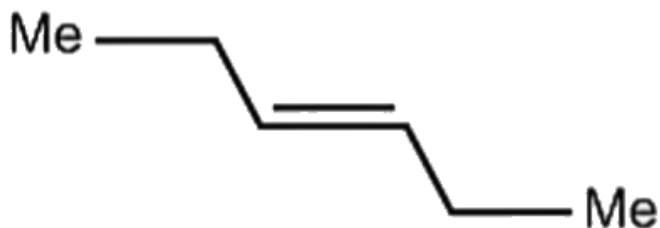
- A. addition polymerization of melamine and formaldehyde.

- B. free radical polymerisation of acrylonitrile
- C. Condensation polymerization of melamine and formaldehyde.
- D. coordination polymerisation of melamine.

Answer: C

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7. What is the IUPAC name of the following compounds?



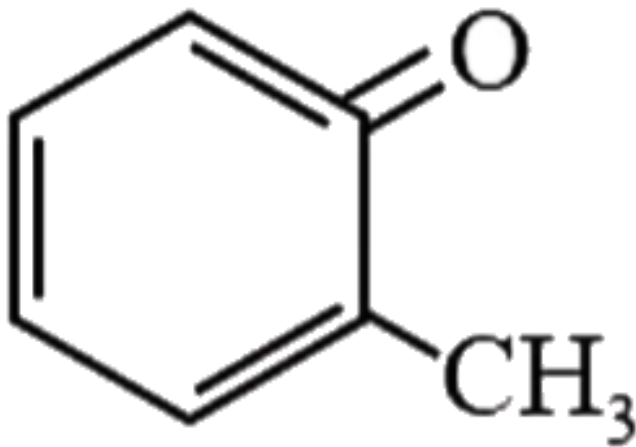
- A. trans-hex-3-ene
- B. trans-hex-4-ene
- C. trans-hex-5-ene

D. trans-hex-6-ene

Answer: A

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8. IUPAC name for the compound



A. Methylcyclohexanone

B. 2-Methylcyclohexanone

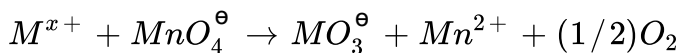
C. Heptanone-2

D. Methylcyclo-hexanone

Answer: B

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9. For the reaction



if 1 mol of MnO_4^{\ominus} oxidises 1.67 mol of M^{x+} to MO_3^{\ominus} , then the value of x in the reaction is

A. 5

B. 3

C. 2

D. 1

Answer: C

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10. The equivalent conductances of two strong electrolytes at infinite dilution in H_2O (where ions move freely through a solution) at $25^\circ C$ are given below :

$$\Lambda_{CH_3COONa}^\circ = 91.0 \text{ Scm}^2 / \text{equiv.}$$

$$\Lambda_{HCl}^\circ = 426.2 \text{ Scm}^2 / \text{equiv.}$$

What additional information//quantity one need to calculate Λ° of an aqueous solution of acetic acid ?

A. Λ° of chloroacetic acid ($ClCH_2COOH$)

B. Λ° of $NaCl$

C. Λ° of CH_3COOK

D. The limiting equivalent conductance of H^+ ($\lambda_{H^+}^\circ$)

Answer: B



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11. Wrong statement regarding white phosphorus (P_4) is:

- A. it has six P - P single bonds
- B. it has four P - P single bonds
- C. it has four lone pair of electrons
- D. bond angle around phosphorus is 60°

Answer: B

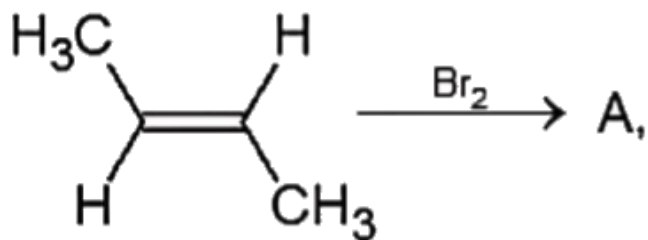
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12. 2-methylpent-2-ene on ozonolysis will give

- A. Propanal only
- B. Propanal and ethanal
- C. Propanone & propanal
- D. Propan-2-ol and ethanal

Answer: C

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13.

Which of the following statement is true ?





- A. A is formed by anti-addition and is meso
- B. A is formed by syn addition and is meso
- C. A is formed by anti-addition and is racemic
- D. A is formed by syn addition and is racemic

Answer: A



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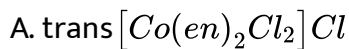
14. The orbital diagram in which both the Pauli's exclusion principle and Hund's rule are violated is :

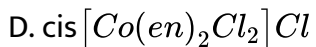
- A. 
- B. 
- C. 
- D. 

Answer: D

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15. Which one of the following complexes shows optical isomerism?

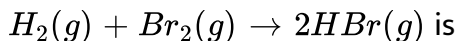




Answer: D

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16. If the end energies of H-H, Br-Br and H-Br are 433, 192 and 364 kJ mol^{-1} respectively, then ΔH° for the reaction,



A. $-261kJ$

B. $+103kJ$

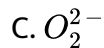
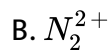
C. $+261kJ$

D. $-103kJ$

Answer: D

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17. Which of the following has unpaired electron(s)?

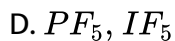
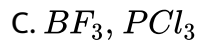
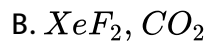
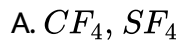


Answer: A



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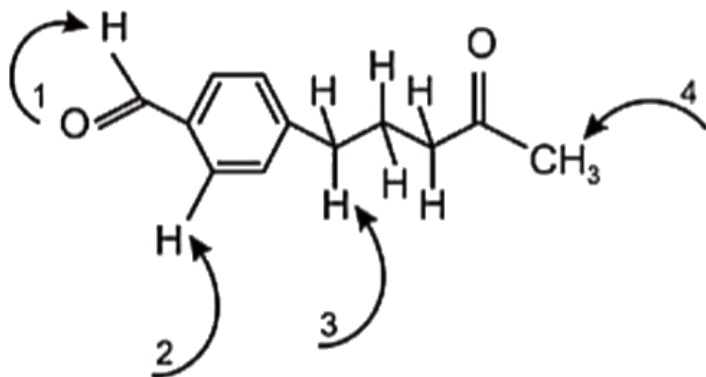
18. The pair of species having identical shapes for molecules of both species is



Answer: B

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19. Choose from the indicated protons, the one that is most acidic



A. 1

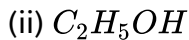
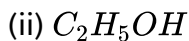
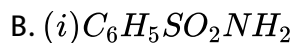
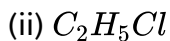
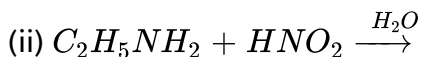
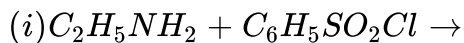
B. 2

C. 3

D. 4

Answer: D

20. The products of the following chemical reactions are



D. None of these

Answer: C

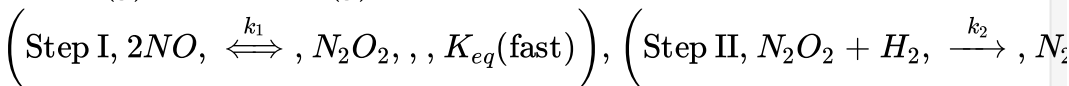
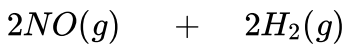
21. Extraction of gold and silver involves leaching with CN^- ion. silver is later recovered by:

- A. Liqutation
- B. Distillation
- C. Zone refining
- D. Displacement with Zn

Answer: D

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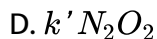
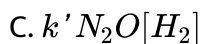
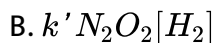
22. For the reaction mechanism of the reaction



Expression of rate of reaction is

(Take $K_{eq} \times k_2 = k'$)

A. $k' [NO]^2 [H_2]$



Answer: A



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23. The reaction $A(g) \rightarrow B(g) + 2C(g)$ is a first-order reaction with a rate constant of $2.303 \times 10^{-3} s^{-1}$. Starting with 0.1 moles of 'A' in a 2 litre vessel, find the concentration of A after 301 sec when the reaction is allowed to take place at constant pressure at 300 K.

A. 0.0125 M

B. 0.025 M

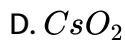
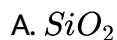
C. 0.05 M

D. None of these

Answer: B

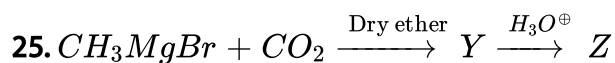
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24. Which of the following is an oxide ore ?



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Identify Z from the following.

A. Ethyl acetate

B. Acetic acid

C. Propanoic acid

D. Methyl acetate

Answer: B



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26. 3-Pentanol on reaction with aluminium tertiary butoxide in the presence of acetone gives

A. 3-pentanal

B. 2-pentanal

C. 3-pentanone

D. 2-pentanone

Answer: C

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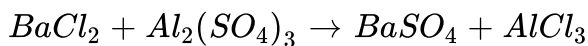
27. In fluorite structure (CaF_2)-

- A. Ca^{2+} ions form ccp & F^- ions are present in all the tetrahedral voids
- B. Ca^{2+} ions form ccp & F^- ions are present in all the octahedral voids
- C. Ca^{2+} ions form ccp & F^- ions are present in half of the octahedral voids and the rest half ions in the tetrahedral voids
- D. None

Answer: A

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28. 30mL of 0.1M BaCl_2 is mixed with 40mL of $0.2\text{M Al}_2(\text{SO}_4)_3$. What is the weight of BaSO_4 formed?



A. 0.999 g

B. 0.699 g

C. 0.799 g

D. 0.99 g

Answer: B



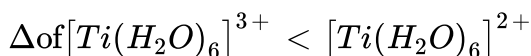
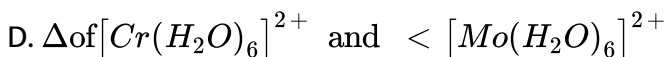
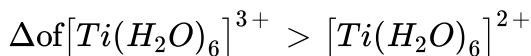
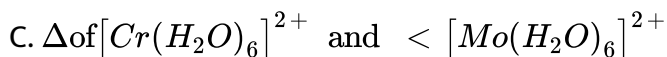
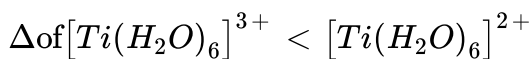
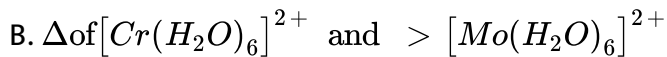
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29. Identify the correct trend given below:

(Atomic No = Ti : 22, Cr : 24 and Mo : 42)

A. Δ of $[\text{Cr}(\text{H}_2\text{O})_6]^{2+}$ and $>$ $[\text{Mo}(\text{H}_2\text{O})_6]^{2+}$

Δ of $[\text{Ti}(\text{H}_2\text{O})_6]^{3+} >$ $[\text{Ti}(\text{H}_2\text{O})_6]^{2+}$



Answer: C



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30. Sewage containing organic waste should not be disposed in water bodies because it causes major water pollution. Fishes in such a polluted water die because of

A. large number of mosquitoes

B. increase in the amount of dissolved oxygen

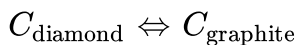
C. decrease in the amount of dissolved oxygen in water

D. clogging of gills by mud

Answer: C

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31. Densities of diamond and graphite are 3.5 and 2.3gmL^{-1} , respectively. The increase of pressure on the equilibrium

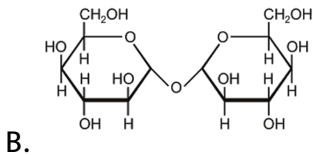
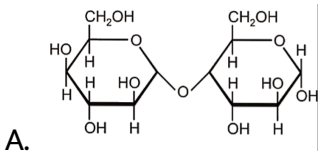
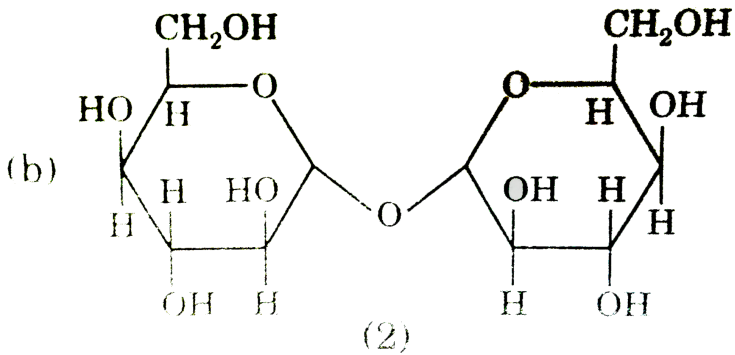
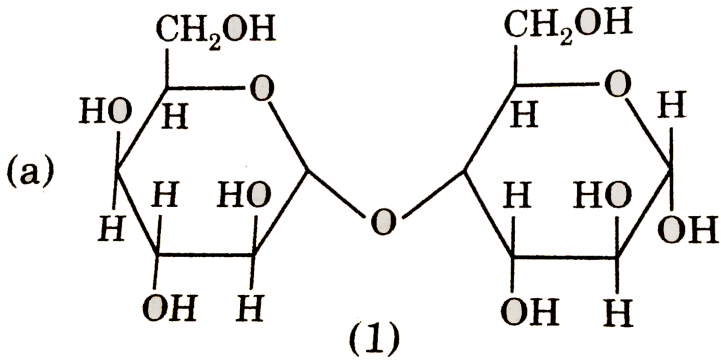


- A. Favours backward reaction
- B. Favours forwards reaction
- C. Forms 3rd allotrope of carbon
- D. increase the reaction rate

Answer: A

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32. Which of the following will reduce Tollen's reagent ? Explain.



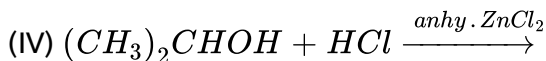
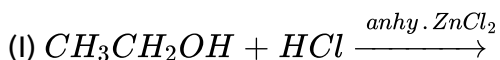
C. Both of them are correct

D. none of these

Answer: A

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33. Which of the following reaction(s) can be used for the preparation of alkyl halides?



A. I and IV only

B. I and II only

C. IV only

D. III and IV only

Answer: A

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34. Osmotic pressure of 40% (wt./vol.) urea solution is 1.64atm and that of 3.42% (wt./vol.) cane sugar is 2.46atm . When equal volumes of the above two solutions are mixed, the osmotic pressure of the resulting solution is:

- A. 1.02 atm
- B. 2.06 atm
- C. 3.04 atm
- D. 0.02 atm

Answer: B

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35. Pb^{2+} , Cu^{2+} , Zn^{2+} and Ni^{2+} ions are present in a given acidic solution. On passing hydrogen sulphide gas through this solution, the available precipitate will contain

A. PbS and NiS

B. PbS and CuS

C. CuS and ZnS

D. CuS and NiS

Answer: B



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36. If two molecules of A and B having mass 100 amu and 64 amu respectively and rate of diffusion of A is 12×10^{-3} , then what will be the rate of diffusion of B?

A. 15×10^{-3}

B. 64×10^{-3}

C. 5×10^{-3}

D. 46×10^{-3}

Answer: A



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37. Which of the following statement is correct?

- A. The bond length in CO is 1.128 Å and CO^+ is 1.115Å because during conversion of CO to CO^+ , electron is removed from anti bonding orbital
- B. The bond length in CO is 1.115 Å and CO^+ is 1.128Å because during conversion of CO to CO^+ , electron is removed from anti bonding orbital
- C. During conversion of CO to CO^+ bond length does not vary because bond order remain same
- D. The bond length in CO is 1.115 Å and CO^+ is 1.128Å because bond order decreases during conversion of CO to CO^+

Answer: A



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38. Tetragonal crystal system has the unit cell dimensions:

A. $a = b = c$ and $\alpha = \beta = \gamma = 90^\circ$

B. $a \neq b \neq c$ and $\alpha = \beta = \gamma = 90^\circ$

C. $a = b \neq c$ and $\alpha = \beta = \gamma = 90^\circ$

D. $a = b \neq c$ and $\alpha = \beta = 90^\circ$ and $\gamma = 120^\circ$

Answer: C



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39. When a 20 mL of 0.08 M weak base BOH is titrated with 0.08 M HCl, the pH of the solution at the end point is 5. What will be the pOH if 10 mL

of 0.04 M NaOH is added to the resulting solution?

[Given: $\log 2 = 0.30$ and $\log 3 = 0.48$]

A. 5.40

B. 4.92

C. None of these

D. 5.88

Answer: D



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40. Which of the following catalyses the conversion of glucose into ethanol?

A. Zymase

B. Invertase

C. Maltase

D. Diastase

Answer: A



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41. Which one of the following statements about water is false ?

- A. There is extensive intramolecular hydrogen bonding in the condensed phase.
- B. Ice formed by heavy water sinks in normal water.
- C. Water is oxidized to oxygen during photosynthesis
- D. Water can act both as an acid and as a base

Answer: A



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42. The buffer system which helps to maintain the pH of blood between 7.26 to 7.42 is

- A. H_2CO_3 / HCO_3^-
- B. NH_4OH / NH_4Cl
- C. CH_3COOH / CH_3COO^-
- D. CH_3COONH_4

Answer: A



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43. Bakelite is a product of the reaction between:

- A. Formaldehyde and NaOH
- B. Aniline and Urea
- C. Phenol and Methanal
- D. Phenol and Chloroform

Answer: C



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44. The first viral disease detected in human being was:

- A. cold
- B. influenza
- C. small pox
- D. yellow fever

Answer: D



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45. An atom has 26 electrons and its atomic weight is 56. The number of neutrons in the nucleus of the atom will be

A. 26

B. 30

C. 36

D. 56

Answer: B



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