doubtnut
India's Number 1 Education App

CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 77

Chemistry

1. Which one of the following sets of quantum number is possible for electron in a 4f-orbital?

A. $\begin{array}{cccc} n & l & m & s \\ 4 & 3 & +4 & +1/2 \end{array}$

B. $\begin{array}{cccc} n & l & m & s \\ 4 & 3 & +1 & -1/2 \end{array}$

C. $\begin{array}{cccc} n & l & m & s \\ 4 & 4 & +4 & -1/2 \end{array}$

D. $\begin{array}{cccc} n & l & m & s \\ 4 & 2 & +4 & +1/2 \end{array}$

Answer: B

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2. Two atoms of hydrogen combine to form a molecule of hydrogen gas, the energy of the H_2 molecule is :

A. higher than that of the separate atoms

B. equal to that of the separate atoms

C. lower than that of the separate atoms

D. sometimes lower and sometimes highest

Answer: C

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3. In the descending order of a group in the periodic table which of the following would be true

1) All the atoms have the same number of valence electrons

2) Gram atomic volume increases

3) Electronegativity decreases

4) Metallic character decrease and basic nature of their oxides decreases

Select the correct answer using the codes

A. 2,3 and 4

B. 1,2 and 4

C. 1,3 and 4

D. 1,2 and 3

Answer: D

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4. Zinc and hydrochloric acid react according to the reaction:

$$Zn_{(s)} + 2HCl_{(aq.)} \rightarrow ZnCl_{2(aq.)} + H_{2(g)}$$

If 0.30 mole of Zn are added to hydrochloric acid containing 0.52 mole HCl, how many moles of H_2 are produced?

A. 1 mole

B. 2 mole

C. 0.8 mole

D. 0.26 mole

Answer: D

5. When zeolite, which is hydrated sodium aluminium silicate, is treated with hard water, the sodium ions are exchanged with

A. H^+ ions

B. Ca^{2+} ions

C. Mg^{2+} ions

D. Both Ca^{2+} and Mg^{2+}

Answer: D

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6. An optically active compound is

A. 1 - bromobutane

B. β - bromobutyric acid

C. 2 - bromo - 2- methylpropane

D. 1- bromo - 2 - methylpropane

Answer: B

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7. A gases mixture contains oxygen and nitrogen in the ratio $1:4$ by weight. Therefore, the ratio of the number of molecules is:

A. $1:4$

B. $1:8$

C. $7:32$

D. $3:16$

Answer: C

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8. When bromoethane is subjected to Wurtz reaction, the hydrocarbon mixture so obtained consist of

A. butane only

B. butane and ethane

C. butane and ethene

D. butane , ethane and ethene

Answer: A

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9. Metallic magnesium is prepared by

A. displacement of Mg by iron from $MgSO_4$ solution

B. electrolysis of an aqueous solution of $Mg(NO_3)_2$

C. electrolysis of molten $MgCl_2$

D. reduction of MgO by coke

Answer: C

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10. Pure silicon dopend with phosphorus is a

A. metallic conductor

B. n - type semiconductor

C. p - type semiconductor

D. insulator

Answer: B

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11. Ammonium compound which on heating does not give NH_3 is

A. NH_4NO_2

B. $(NH_4)_2CO_3$

C. $(NH_4)_2SO_4$

D. NH_4Cl

Answer: A

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12. The hydrolysis of 1 mol of chloroform requires

A. 1 mol of KOH

B. 2 mol of KOH

C. 3 mol of KOH

D. 4 mol of KOH

Answer: D

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13. Acetic acid is a weak acid. The molar conductances of 0.05 M acetic acid at $25^{\circ}C$ is $7.36S\ \text{cm}^2\text{mol}^{-1}$. If its $\overset{\infty}{\underset{m}{\wedge}}$ is 390.72 S $cm^2\text{mol}^{-1}$. The value of equilibrium constant is

A. 1.8×10^{-5}

B. 1.8×10^{-7}

C. 3.6×10^{-5}

D. 5.4×10^{-5}

Answer: A

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14. For reaction,

$PCl_3(g) + Cl_2(g) \Leftrightarrow PCl_5(g)$

the value of K_c at $250^\circ C$ is 26. The value of K_p at this temperature will be .

A. 0.61

B. 0.57

C. 0.83

D. 0.46

Answer: A

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15. Which salt is an acid salt ?

A. Na_2SO_4

B. $BiOCl$

C. $Pb(OH)Cl$

D. Na_2HPO_4

Answer: D

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16. Place the following alcohols in decreasing order of rate of dehydration with concentration H_2SO_4.

1. $CH_3CH_2CH(OH)CH_2CH_2CH_3$

2. $(CH_3)_2C(OH)CH_2CH_2CH_3$

3. $(CH_3)_2C(OH)CH(CH_3)_2$

4. $CH_3CH_2CH(OH)CH(CH_3)_2$

5. $CH_3CH_2CH_2CH_2CH_2CH_2OH$

A. $3 > 2 > 4 > 5 > 1$

B. $3 > 2 > 4 > 1 > 5$

C. $3 > 2 > 1 > 4 > 5$

D. $3 > 2 > 1 > 5 > 4$

Answer: B

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17. The complex compound formed with KCN solution is added to solution containing both Cu^{2+} and Cd^{2+} ions are

A. $K_2[Cu(CN)_4], K_2[Cd(CN)_4]$

B. $K_3[Cu(CN)_4], K_2[Cd(CN)_4]$

C. $K_3[Cu(CN)_4], K_3[Cd(CN)_4]$

D. $K_2[Cu(CN)_4], K_3[Cd(CN)_4]$

Answer: B

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18. Aqueous solution of the following compounds are electrolysed . Acetylene gas is obtained from

A. sodium fumarate

B. sodium maleate

C. sodium succinate

D. both A and B

Answer: D

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19. The compound formed as a result of oxidation of ethyl benzene by $KMnO_4$ is :

A. Benzyl alcohol

B. Acetophenone

C. Benzoic acid

D. Benzophenone

Answer: C

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20. An electrolytic cell is constructed for preparing hydrogen. For an average current of 2 ampere in the circuit, the time required to

produce 450 mL of hydrogen at NTP is approximately

A. 1/2 hour

B. 1 hour

C. 2 hours

D. 5 hours

Answer: A

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21. The bezylic carbon in $C_6H_5 - CH_2 - CH_2 - COOH$ is

A. linearly placed with respect to benzene ring and carbonyl group

B. trigonaly shaped

C. tetrahedral in shape

D. at 90° to the plane of benzene bing

Answer: C

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22. Which of the following structures is associated with biggest jump between the second and third ionization energy ?

A. $1s^2 2s^2 2p^6 3s^1$

B. $1s^2 2s^2 2p^5$

C. $1s^2 2s^2 2p^6$

D. $1s^2 2s^2 2p^6 3s^2 3p^2$

Answer: D

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23. The rusting of iron is catalysed by which of the following ?

A. Fe

B. O_2

C. Zn

D. H^+

Answer: D

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24. A 500 g toothpaste sample has 0.2 g fluoride concentration. What is the concentration of F^{Θ} in ppm ?

A. 250

B. 200

C. 400

D. 1000

Answer: C

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25. Reaction between diethyl cadmium and acetyl chloride lead to the formation of

A. dimethyl ketone

B. ethyl methyl ketone

C. diethyl ketone

D. acetaldehyde

Answer: B

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26. The maximum number of carbon atoms arranged linearly in the molecule,

$CH_3 - C \equiv C - CH = CH_2$ is

A. 2

B. 3

C. 4

D. 5

Answer: C

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27. Calculate the heat of hydrogenation ,

$C_2H_4(g) + H_2(g) \rightarrow C_2H_6(g)$

Given that, the heats of combustion of ethylene, hydrogen and ethane are -337.0, -68.4 and -373.0 kcal respectively.

A. -32.4 kcal

B. -36.3 kcal

C. -37.8 kcal

D. 39.2 kcal

Answer: A

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28. Which of the following salts is used in the bead test for basic character ?

A. $Na(NH_4)HPO_4.4H_2O$

B. Na_2HPO_4

C. $(NH_4)_2SO_4.FeSO_{4.6}H_2O$

D. $(NH_3)_2HPO_{4.2}H_2O$

Answer: A

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29. For the reaction $A \rightarrow$ Products, it is found that the rate of reaction increases by a factor of 6.25 when concentration of A increases by a factor of 2.5. Calculate the order of reaction with respect to A.

A. 2.5

B. 2

C. 1

D. 0.5

Answer: B

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30. The relationship between K_p and K_c is $K_p = K_c(RT)^{\Delta n}$. What would be the value of Δn for the reaction :

$NH_4Cl(s) \Leftrightarrow NH_3(g) + HCl(g)$?

A. 1

B. 0.5

C. 1.5

D. 2

Answer: D

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31. Which one of the following molecules cannot serve as a monomer for an addition polymer ?

A. $ClCH = CH_2$

B. $H_2C = CHCN$

C. $H_2C = CH - C_6H_5$

D. $CH_3\overset{\overset{O}{||}}{C} - OH$

Answer: D

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32. Anaerobic respiration of 1 mol of glucose produces.

A. $4CO_2 + 4H_2O$

B. $2C_2H_5OH + 2CO_2$

C. $CH_3CH_2OH + CH_3OH + CO_2$

D. $CH_3OH + CO_2 + H_2O$

Answer: B

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33. Colloidal gold sol can be preared by the reduction of soluble salt solution such as $AuCl_3$ with

A. $SnCl_2$

B. hydrazine

C. formaldehyde

D. with any one of the above

Answer: D

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34. Which of the following does not liberate Br_2 form KBr ?

A. I_2

B. Cl_2

C. Conc. H_2SO_4

D. F_2

Answer: A

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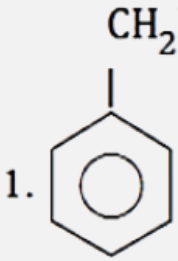
35. Consider the following substances

1.


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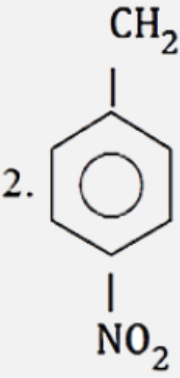

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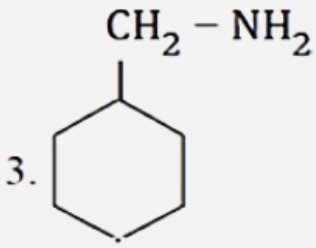

A. $3 > 1 > 2$

B. $1 > 2 > 3$

C. $1 > 3 > 2$

D. $2 > 1 > 3$

Answer: A

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36. Which of the following is incorrect ?

A. Water is more polar than H_2S

B. H_2O_2 is a planar molecule

C. Heavy water is produced by the exhaustive electrolysis of water made acidic

D. H_2O_2 acts both as oxidising as well as reducing agent in acidic medium

Answer: B

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37. The complex used as an anticancer agent is

_____.

A. mer - $\left[Co(NH_3)_3Cl_3\right]$

B. cis - $\left[PtCl_2(NH_3)_2\right]$

C. cis - $K_2[PtCl_2Br_2]$

D. Na_2CoCl_4

Answer: B

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38. The equivalent weight of $MnSO_4$ is half its molecular weight when it is converted to

A. Mn_2O_3

B. MnO_2

C. MnO_4^-

D. MnO_4^{2-}

Answer: B

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39. Which of the following has the highest heat of vaporization ?

A. HF

B. HCl

C. HBr

D. Hl

Answer: A

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40. Which one the following has maximum reactivity towards HCN ?

A. HCHO

B. CH_3COCH_3

C. CH_3CHO

D. $C_2H_5COCH_3$

Answer: A

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

A. Cryolite

B. Mica

C. Feldspar

D. Fluorspar

Answer: D

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42. Drugs which do not bind to the enzyme's active site, but to different site is called

A. inhibition site

B. competitive site

C. allosteric site

D. none of these

Answer: C

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43. An anhybride and an ester can be distinguished with

A. C_2H_5OH

B. NH_3

C. water

D. aqueous NaOH

Answer: C

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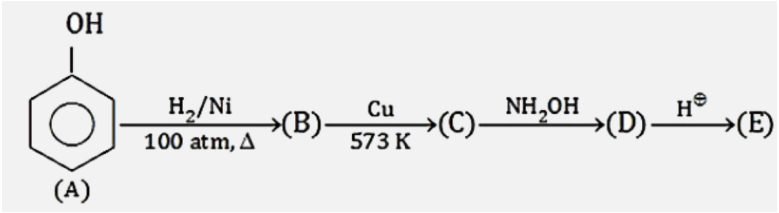
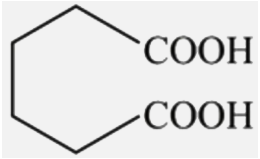
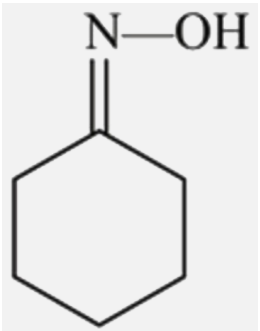
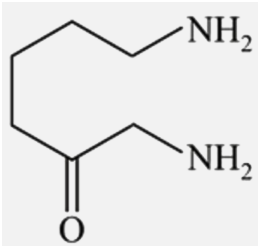
44. The final product (E) in the following reaction is



A. 

B. 

C. 

D.

Answer: D

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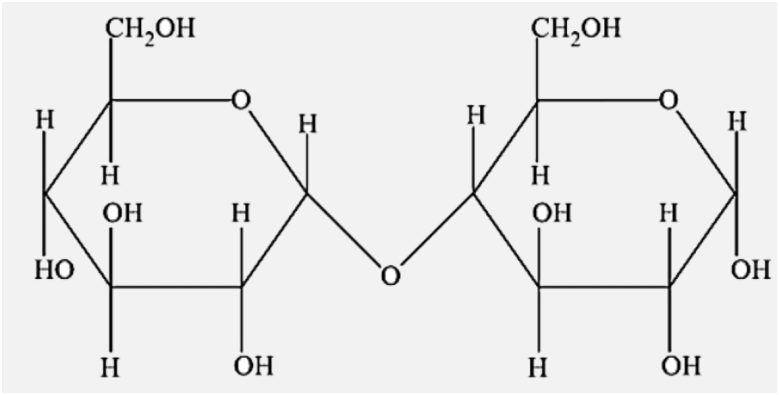
45. How many aldose, ketose and furanose and pyranose units are present in maltose ?



A. 0 aldose , 2 ketose , 0 furanose , 2 pyranose

B. 1 aldose, 1 ketose , 1 furanose , 1 pyranose

C. 2 aldose , 0 ketose , 0 furanose , 2 pyranose

D. 2 aldose, 0 ketose, 1 furanose , 2 pyranose

Answer: C

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