CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 55

Chemistry

1. Gd (64) has .....unpaired electrons with sum of spin .....

A. 7,3.5

B. 8,3

C. 6,3

D. 8,4

Answer: D

 Watch Video Solution

2. 2.4 g of pure Mg (at. Mass = 24) is dropped in 100 mL of 1 M HCl . Which of the following statement is wrong ?

A. 1.12 L of hydrogen is produced at S.T.P

B. 0.05 mol of magnesium is left behind

C. HCl is the limiting reagent

D. 0.005 mol of magnesium is left behind

Answer: D

Watch Video Solution

3. An element (atomic mass $= 100g/mol$) having bcc structure has unit cell edge 400 pm .Them density of the element is

A. $2.144 g / cm^3$

B. $5.188 g / cm^3$

C. $7.289 g / cm^3$

D. $10.376 g / cm^3$

Answer: B

Watch Video Solution

4. The bonding electrons and lone pairs present in I_3^- are respectively:

A. 12

B. 3

C. 6

D. 9

Answer: D

Watch Video Solution

5. For redox reaction

$$xMnO_4^- + yH_2C_2O_4 + ZH^+ \downarrow mMn^{2+} + nCO_2 + pH_2O$$

The value of x,y,m and n are:

A. 10,2,5,2

B. 2,5,2,10

C. 6,4,2,4

D. 3,5,2,10

Answer: B

 Watch Video Solution

6. For the complex $[Ma_2B_2]$ if M is sp^3 or dsp^2 hybridised respectively then total number of optical isomers are respectively:

A. 2 and 2

B. 0 and 0

C. 0 and 2

D. 0 and 1

Answer: B

Watch Video Solution

7. For the reaction , $2SO_2 + O_2 \Leftrightarrow 2SO_3$, the rate of disappearance of O_2 is $2 \times 10^{-4} molL^{-1}s^{-1}$. The rate of appearance of SO_3 is

A. $2 \times 10^{-4} molL^{-1}s^{-1}$

B. $4 \times 10^{-4} molL^{-1}s^{-1}$

C. $1 \times 10^{-4} molL^{-1}s^{-1}$

D. $6 \times 10^{-4} molL^{-1}s^{-1}$

Answer: B

Watch Video Solution

8. Zine can be coated on iron to produce galvanize3d iron but the reverse is not possible it is because

A. Zinc is lighter than iron

B. Zinc has lower melting point than iron

C. Zinc has lower negative electrode potential than iron

D. Zinc has higher negative electrode potential than iron

Answer: D

Watch Video Solution

9. The $\left[H^{+}\right]$ of a resulting solution that is 0.01 M acetic acid $\left(K_a = 1.8 \times 10^{-5}\right)$ and 0.01 M in benzoic acid $\left(K_a = 6.3 \times 10^{-5}\right)$:

A. 9×10^{-4}

B. 81×10^{-4}

C. 9×10^{-5}

D. 2.8×10^{-3}

Answer: A

Watch Video Solution

10. At $35^{\circ}C$, the vapour pressure of CS_2 is 512 mm Hg and that of acetone is 344 mm Hg . A solution of CS_2 in acetone has a total vopour pressure of 600 mm Hg. The false statement amongst the following is

A. A mixture of 100 mL CS_2 and 100 mL acetone has a volume $< 200mL$

B. Roult's law is not obeyed by this system

C. Heat must be adsorbed in order to produce the solution at $35^\circ C$

D. CS_2 and acetone are less attracted to each other than to themselves

Answer: A

 Watch Video Solution

11. Which of the following compounds is not chiral ?

A. CH_3CHDCH_2Cl

B. CH_3CH_2CHDCl

C. $DCH_2CH_2CH_2Cl$

D. $CH_3CHClCH_2D$

Answer: C

Watch Video Solution

12. The order of the oxidation state of the phos- phorus atom in H_3PO_2, H_3PO_4, H_3PO_3 and $H_4P_2O_6$ is : -

A.

$$H_3PO_4 > H_3PO_2 > H_3PO_3 > H_4P_2O_6$$

B.

$$H_3PO_4 > H_2P_2O_6 > H_3PO_3 > H_3PO_2$$

C.

$$H_3PO_2 > H_3PO_3 > H_4P_2O_6 > H_3PO_4$$

D.

$$H_3PO_4 > H_3PO_2 > H_3PO_4 > H_4P_2O_6$$

Answer: B

Watch Video Solution

13. Silver chloride dissolves in excess of NH_4OH. The cation present in solution is.

A. $\left[Ag(NH_3)_6\right]^+$

B. $\left[Ag(NH_3)_4\right]^+$

C. Ag^+

D. $\left[Ag(NH_3)_2\right]^+$

Answer: D

Watch Video Solution

14. Arrang the anions (p) $\bar{C}H_3$, $(q)\bar{N}H_2$, $(r)OH^-$, $(s)F^-$, in decreasing order of their basic strength .

A. $p > q > \ > r > s$

B. $q > p > r > s$

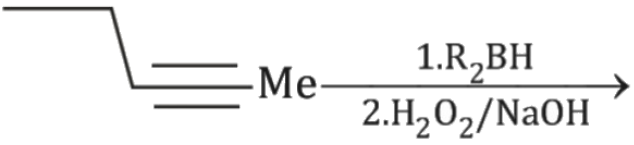
C. $r > q > p > s$

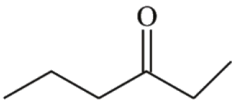
D. $r > p > q > s$

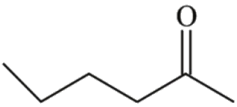
Answer: A

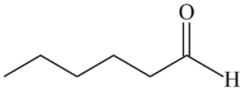
Watch Video Solution

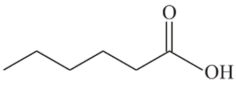
15. The product of the reaction is



A. 

B. 

C. 

D. 

Answer: B

Watch Video Solution

16. The reaction of H_2O_2 with H_2S is an example of .....reaction .

A. addition

B. oxidation

C. reduction

D. redox

Answer: D

Watch Video Solution

17. Which of the following statements is not correct for the periodic classification of elements?

A. The properties of the elements are the periodic functions of their atomic numbers

B. Non - metallic elements are lesser in number than the metallic elements

C. The first ionization energies of the elements along a period do not vary in a regular manner with increase in atomic number

D. For transition elements , the d - electrons are filled monotonically with increase in atomic number

Answer: D

 Watch Video Solution

18. What is the density of solution of sulphuric acid used as an electrolyte in lead accumulator ?

A. $1.5gL^{-1}$

B. $1.2gL^{-1}$

C. $1.8gL^{-1}$

D. $2.0gL^{-1}$

Answer: B

Watch Video Solution

19. Name the common elements present in the anode mud in the eletrolytic refining of copper.

A. Sn and Ag

B. Pb and Zn

C. Ag and Au

D. Fe and Ni

Answer: C

Watch Video Solution

20. $PhMgBr + \xrightarrow[(2)\,H^{\oplus}]{(1)\,X} Ph - \underset{Ph}{\overset{OH}{\underset{|}{\overset{|}{C}}}} - Ph$

X is

A. $Ph - \overset{\overset{O}{||}}{C} - H$

B. $Ph - \overset{\overset{O}{||}}{C} - Ph$

C. $Ph - \underset{\underset{Ph}{|}}{CH} - \overset{\overset{O}{||}}{C} - H$

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

Answer: B

Watch Video Solution

21. Pick out the correct statement with respect to $\left[Mn(CN)_6\right]^{3-}$:

A. It is sp^3d^2 hybridised and tetrahedral

B. It is d^2sp^3 hybridised and octahedral

C. It is dsp^2 hybridised and square planar

D. It is sp^3d^2 hybridised and octahedral

Answer: B

Watch Video Solution

22. The increasing order of atomic radii of the following Group 13 element is

A. $Al > Ga < In < TI$

B. $Ga < Al < In < TI$

C. $Al < In < Ga < TI$

D. $Al > Ga < TI < In$

Answer: B

Watch Video Solution

23. Identify the monosaccharide containing only one asymmetric carbon atom in its molecule.

A. Ribulose

B. Ribose

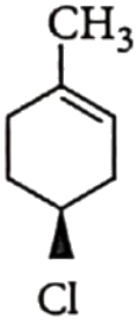
C. Erythrose

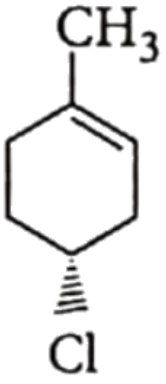
D. Glyceraldehyde

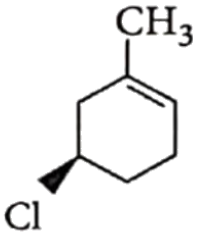
Answer: D

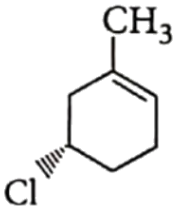
Watch Video Solution

24. Which of the following compounds is (S) - 4 - chloro - 1- methylcyclohexene ?

A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

25. When equal volume of the following solutions are mixed , which of the following

gives maximum precipitate ?

$\left(K_{sp} \text{ of } AgCl = 10^{-12}\right)$

A. $10^{-4}MAg^{+}$ and $10^{-4}MCl^{-}$

B. $10^{-3}MAg^{+}$ and $10^{-3}MCl^{-}$

C. $10^{-5}MAg^{+}$ and $10^{-5}MCl^{-}$

D. $10^{-6}MAg^{+}$ and $10^{-6}MCl^{-}$

Answer: B

Watch Video Solution

26. The correct order of increasing bond angle in the following species is

A. $ClO_2^- < Cl_2O < ClO_2$

B. $Cl_2O < ClO_2 < ClO_2^-$

C. $ClO_2 < Cl_2O < ClO_2^-$

D. $ClO_2 < ClO_2^- < ClO_2$

Answer: D

Watch Video Solution

27. The maximum prescribed concentration of cadmium in drinking water in ppm is

A. 0.005

B. 3

C. 2

D. 5

Answer: A

Watch Video Solution

28. The reactant 'P' in the following reactions

is $P \xrightarrow[dil.H_2SO_4]{K_2Cr_2O_7} B \xrightarrow[H_3O^+]{CH_3MgBr} CH_3 - \underset{\displaystyle OH}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}} - CH_3$

A. $CH_3CHOHCH_3$

B. CH_3COCH_3

C. CH_3CH_2OH

D. CH_3COOH

Answer: A

Watch Video Solution

29. The maximum number of 90° angles between bond pair-bond pair of electrons is observed in

A. sp^3d^2 hybridisation

B. sp^3 dhybridisation

C. dsp^3 hybridisation

D. dsp^2 hybridisation

Answer: A

Watch Video Solution

30. Calculate the energy in joule corresponding to light of wavelength $45nm$: (Planck' constant $h = 6.63 \times 10^{-34} Js$, speed of light $c = 3 \times 10^{8} ms^{-1}$)

A. 6.67×10^{11}

B. 4.42×10^{-15}

C. 6.67×10^{15}

D. 4.42×10^{-18}

Answer: D

Watch Video Solution

31. 1.0 g of Mg is burnt with 0.28 g of O_2 in a closed vessel . Which reactant is left in excess and how much ?

A. Mg , 5.8 g

B. Mg , 0.58 g

C. O_2, 0.24 g

D. O_2 , 2.4 g

Answer: B

Watch Video Solution

32. Which of the following carboxylic acids is a tricarboxylic acid?

A. Citric acid

B. Malonic acid

C. Succinic acid

D. Malic acid

Answer: A

Watch Video Solution

33. Metal carbides on reaction with H_2O form CH_4 , Carbide can be

A. CaC_2

B. Mg_3C_2

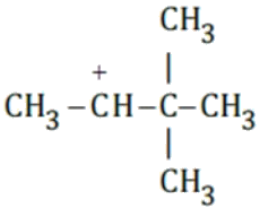
C. Be_2C

D. All of these

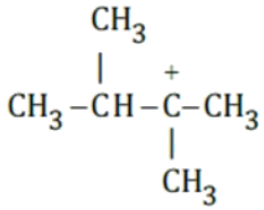
Answer: C

Watch Video Solution

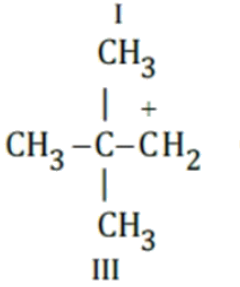
34. Which of the following carbocations is most stable ?



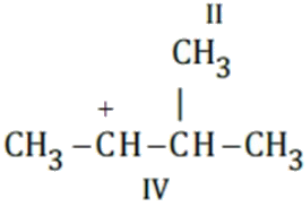
I



II



III



IV

A. I

B. II

C. III

D. IV

Answer: B

Watch Video Solution

35. Calculate the wok done during combustion of 0.138 kg of ethanol, $C_2H_5OH_{(l)}$ at 300 K. Given: R = 8.314 J $K^{-1}mol^{-1}$, molar mass of ethanol = 46 g mol^{-1}.

A. $-7482J$

B. 7482 J

C. $-2494J$

D. 2494 J

Answer: B

Watch Video Solution

36. When SO_2 gas is passed into aqueous Na_2CO_3 , the product (s) formed is (are)

A. $NaHSO_4$

B. Na_2SO_2

C. $NaHSO_3$

D. Na_2SO_3 and $NaHSO_3$

Answer: D

Watch Video Solution

37. The correct match between items of List - I and List - II is

	List – I		List – II
1.	Coloured impurity	P.	Steam distillation
2.	Mixture of o-nitrophenol and p-nitrophenol	Q.	Fractional distillation
3.	Crude Naphtha	R.	Charcoal treatment
4.	Mixture of glycerol and sugars	S.	Distillation under reduced pressure

A. 1 - R, 2 - S , 3 - P , 4 - Q

B. 1 - R , 2 - P, 3 - Q , 4 - S

C. 1 - P, 2 - P , 3 - Q , 4 - S

D. 1 - R , 2 - P , 3 - S , 4 - Q

Answer: B

Watch Video Solution

38. Compound 'A' $C_5H_{10}O$ forms a phenyl hydrazone and gives a negative Tollen's reagent test and iodoform test. On reduction

with Zn-Hg/HCl, compound A gives n-Pentane.

The compound 'A' is

A. pentanal

B. 2 - pentanone

C. 3 - pentanone

D. amyl alcohol

Answer: B

 Watch Video Solution

39. The equilibrium constant of the following are reactions

$N_2 + 3H_2 \Leftrightarrow 2NH_3 K_1$

$N_2 + O_2 \Leftrightarrow 2NO K_2$

$H_2 + \frac{1}{2}O_2 \rightarrow H_2O K_3$

The equilibrium constant (K) of the reaction $NH_3 + \frac{5}{2}O_2 \overset{K}{\longleftrightarrow} 2NO + 3H_2O$, will be

A. $K_1 . \frac{K_2}{K_3}$

B. $K_2 . \frac{K_3^3}{K_1}$

C. $K_2 . \frac{K_3^2}{K_1}$

D. $K_2^2 . \frac{K_3}{K_1}$

Answer: B

Watch Video Solution

40. Which one of the following is an example of thermosetting polymer ?

A. Bakelite

B. PVC

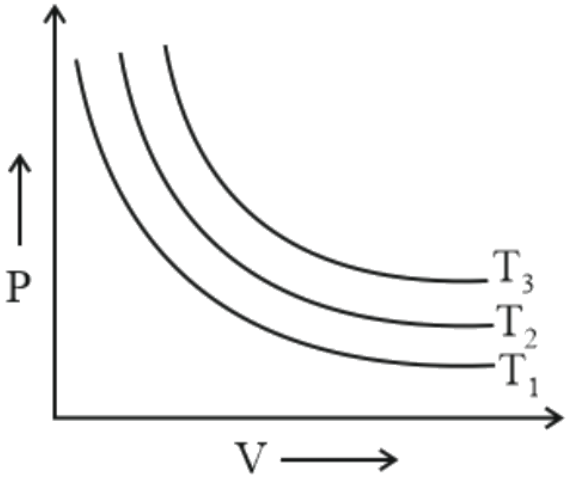
C. Nylon 6, 6

D. Buna - S

Answer: A

Watch Video Solution

41. for the given PV isotherms , which of the following is correct for T_1, T_2, T_3 ?



A. $T_1 < T_2 < T_3$

B. $T_3 < T_2 < T_1$

C. $T_2 < T_3 < T_1$

D. $T_1 < T_3 < T_2$

Answer: A

Watch Video Solution

42. The difference between $\overline{C}_p$ and $\overline{C}_v$ is

$[\overline{C}_p$ and $\overline{C}_v$ signify molar quantities]

A. larger is case of gases in comparison to solids and liquids

B. large in case of liquids in comparison to gas and solids

C. larger in case of solids in comparison to gas and liquids

D. equal solids , liquids and gases

Answer: A

 Watch Video Solution

43. Barbiturates are

A. hypnotics

B. antimicrobials

C. antacids

D. antiseptics

Answer: A

Watch Video Solution

44. What will be the product when benzaldehyde is treated with NaOD in D_2O ?

A. $C_2H_5CH_2OD$ and C_6H_5COONa

B. $C_2H_5CH_2OD$ and C_6H_5COOD

C. C_6H_5CHDOD and C_6H_5COONa

D. $C_6H_5COOCHDC_6H_5$

Answer: A

Watch Video Solution

45. What is the correct explanation of the non - reducing property of sucrose ?

A. α - D - glucopyranose and β - D - fructofuranose are linked via C_2 and C_1 centres respectively

B. α - D - glucopyranose and β - D - fructofuranose are linked via C_1 and C_2 centres respectively

C. α - D - glucopyranose and β - D - fructofuranose are linked via C_2 and C_2 centres respectively

D. α - D - glucopyranose and β - D - fructofuranose are linked via C_3 and C_4 centres respectively

Answer: B

Watch Video Solution