



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 83

Chemistry

1. If λ_0 is the Threshold wavelength of a metal for photo-electron emission . If the metal is exposed to the light of wavelength λ then the velocity of ejected electron will be $\sqrt{\frac{2h}{m}(\lambda_0 - \lambda)K}$. The value of (K) is :

A. speed of light

B. 1

C. $\frac{C}{\lambda_0\lambda}$

D. $\frac{1}{\lambda\lambda_0}$

Answer: C



Watch Video Solution

2. The number of three centre two electron bonds in a molecule of diborane is _____.

A. 0

B. 2

C. 4

D. 6

Answer: B



Watch Video Solution

3. How many - COOH groups are present in Aspartic acid

A. 0

B. 1

C. 2

D. 3

Answer: C



Watch Video Solution

4. The density of liquid (mol.wt. = 70) is 1.2gmL^{-1} . If 2mL of liquid contains 35 drops, the number of molecules of liquid in one drop are:

A. $\frac{1.2}{35} N_A$

B. $\left(\frac{1}{35}\right)^2 N_A$

C. $\frac{1.2}{(35)^2} N_A$

D. $1.2 N_A$

Answer: C



Watch Video Solution

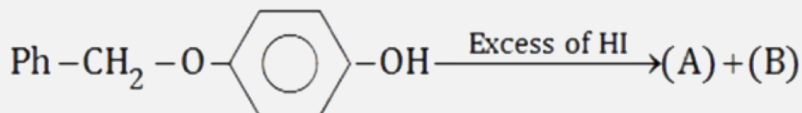
5. Which of the following is not correct ?

- A. Lead is a true metal with +2 electrovalency
- B. forms $PbCl_4$, which is soluble in organic solvent
- C. Lead reacts with conc. HCl to form $PbCl_2$.
- D. Lead reacts with NaOH solution to form $Pb(OH)_4$

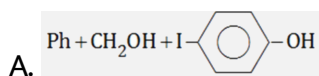
Answer: D

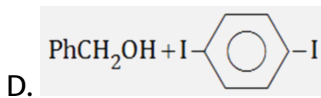
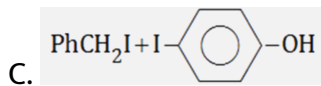
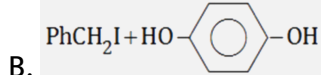


Watch Video Solution



The products A and B are

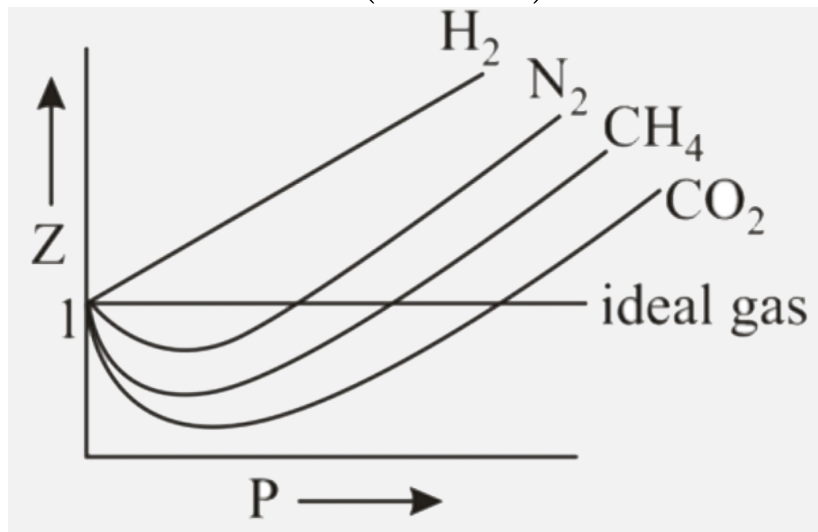




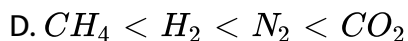
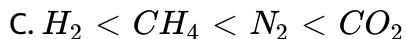
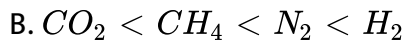
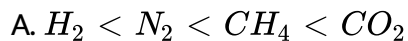
Answer: B

[▶ Watch Video Solution](#)

7. Compressibility factor $\left(Z = \frac{PV}{nRT} \right)$ is plotted against pressure



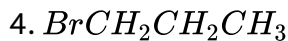
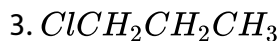
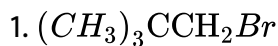
Which is the correct order of liquefiability of the gases shown in the above graph ?



Answer: A

 [Watch Video Solution](#)

8. Consider the following alkyl halides



Arrange these alkyl halides in decreasing order of reactivity in Williamson reaction.

A. $2 > 1 > 3 > 4$

B. $2 > 1 > 4 > 3$

C. $1 > 2 > 3 > 4$

D. $2 > 4 > 3 > 1$

Answer: D

 [Watch Video Solution](#)

9. KI when heated with conc. H_2SO_4 , it forms



Answer: C

 [Watch Video Solution](#)

10. The crystal system having the highest and the lowest symmetries respectively , are

- A. cubic and rhombohedral
- B. cubic and triclinic
- C. rhombohedral and monolinic
- D. cubic and monoclinic

Answer: B



[Watch Video Solution](#)

11. Amine oxide , when heated , forms alkene. This reaction is called

- A. Cope elimination
- B. Curtius reaction

C. Hoffmann elimination

D. Mannich reaction

Answer: A

 [Watch Video Solution](#)

12. Hot and conc. $KMnO_4$ at 373-383 K reacts with pent - 2- ene to form

A. propionic acid only

B. ethanoic acid only

C. a mixture of propionic acid and ethanoic acid

D. a mixture of butanoic and formic acid

Answer: C

 [Watch Video Solution](#)

13. $HClO_4$, HNO_3 and HCl are all strong acids in aqueous solution. In glacial acetic acid medium, their acid strength is such that-



Answer: A



Watch Video Solution

14. Which of the following graph represents an exothermic reaction?



D. 

Answer: A

 [Watch Video Solution](#)

15. Consider the three solutions of 1 M concentration

1. Sodium acetate (CH_3COONa)

2. Acetic acid + Sodium acetate

($CH_3COOH + CH_3COONa$)

3. Acetic acid (CH_3COOH)

The pH of these solutions will be lie in the following sequence

A. $3 > 2 > 1$

B. $2 > 1 > 3$

C. $1 > 2 > 3$

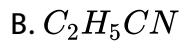
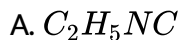
D. $3 > 1 > 2$

Answer: A



Watch Video Solution

16. The compound which contains both covalent and coordinate bond is



Answer: A



Watch Video Solution

17. The IUPAC name of Wilkinsons catalyst $[RhCl(PPh_3)_3]$ is

A. chloride tris (triphenyl phosphine rhodium (I))

B. chloride tris (triphenyl phosphone rhodium (IV))

C. chloride tris (triphenyl phosphine rhodium (0)

D. chloride tris (triphenyl phosphine) rhodium (VI)

Answer: A

 [Watch Video Solution](#)

18. Hydrocarbon 'A' reacts with $KMnO_4$ under neutral conditions at room temperature to form only a diketone,

$CH_3CH_2C \begin{array}{c} || \\ O \end{array} - C \begin{array}{c} || \\ O \end{array} CH_2CH_2CH_3$. The hydrocarbon is

A. $CH_3C \equiv CCH_2CH_2CH_2CH_3$

B. $HC \equiv CCH_2CH_2CH_2CH_2CH_3$

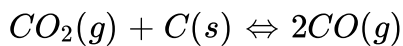
C. $CH_3C \equiv \begin{array}{c} C \\ | \\ CH_3 \end{array} CHCH_2CH_3$

D. $CH_3CH_2C \equiv CCH_2CH_2CH_3$

Answer: D

 [Watch Video Solution](#)

19. For the reaction between CO_2 and graphite



$\Delta H = +170.0kJ$ and $\Delta S = 170JK^{-1}$. The reaction is spontaneous

at

A. 298 K

B. 500 K

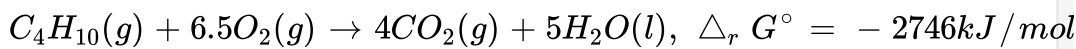
C. 900 K

D. 1200 K

Answer: D

[Watch Video Solution](#)

20. A fuel cell develops an electrical potential from the combustion of butane at 1 bar and 298 K



what is E° of a cell?

A. +4.74V

B. +0.547V

C. +1.09V

D. +4.37V

Answer: C



Watch Video Solution

21. Which of the following has distorted octahedral structure ?

A. SF_6

B. PF_6^-

C. SiF_6^{2-}

D. XeF_6

Answer: D



Watch Video Solution

22. If v_1 is the frequency of the series limit of lyman series, v_2 is the frequency of the first line of lyman series and v_3 is the frequency of the series limit of the balmer series, then

A. $v_1 + v_2 = v_3$

B. $v_2 - v_1 = v_3$

C. $v_1 - v_2 = v_3$

D. $v_3 = \frac{1}{2}(v_1 + v_2)$

Answer: C



Watch Video Solution

23. Californium (atomic number = 98) is a member of

A. s - block

B. p - block

C. d - block

D. f - block

Answer: D

 [Watch Video Solution](#)

24. A compound MX_2 has observed and normal molar masses 65.6 and 164 respectively. Calculate the apparent degree of ionization of MX_2 :

A. 75 %

B. 85 %

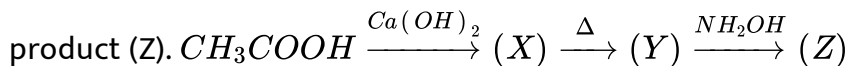
C. 65 %

D. 25 %

Answer: A

 Watch Video Solution

25. Consider the following sequence of reaction and identify the final



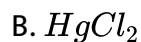
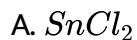
- A. Ethanol oxime
- B. Methanal oxime
- C. Propanone oxime
- D. 2 - nitrosopropane

Answer: C

 Watch Video Solution

26. Presence of peroxide in ethers of old stock can be tested by first treating them with $FeSO_4$ solution and then adding an aqueous

solution of&from red colour solution



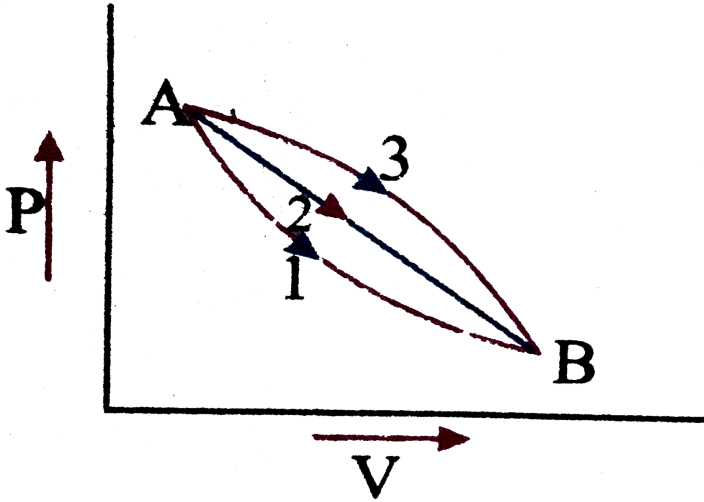
Answer: D



[Watch Video Solution](#)

27. A given mass of a gas expands from the state A to the state B by three paths 1, 2 and 3 as shown in the figure, If W_1 , W_2 and W_3

respectively be the work done by the gas along the three paths then



A. $w_1 > w_2 > w_3$

B. $w_1 < w_2 < w_3$

C. $w_1 = w_2 = w_3$

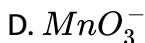
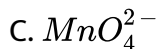
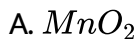
D. $w_2 < w_3 < w_1$

Answer: B



Watch Video Solution

28. MnO_4^- ions can be reduced in strongly alkaline medium to give



Answer: C



Watch Video Solution

29. A layer of chromium metal 0.25 mm thick is to be plated on an auto bumper with a total area of $0.32m^2$ from a solution containing CrO_4^{2-} ?

What current flow is required for this electroplating if the bumper is to be plated in 60s ? The density of chromium metal is $7.20g/cm^3$

A. $4.9 \times 10^3 A$

B. $1.78 \times 10^3 A$

C. $5.3 \times 10^4 A$

D. $10.69 \times 10^6 A$

Answer: D

 [Watch Video Solution](#)

30. Hydrolysis constants of two salts K_{hA} and K_{hB} of weak acids HA and are 10^{-8} and 10^{-6} . If the dissociation constant of third acid HC is 10^{-2} . The order of acidic strength of three acids will be

A. $HA > HB > HC$

B. $HB > HA > HC$

C. $HC > HA > HB$

D. $HA = HB = HC$

Answer: C

 [Watch Video Solution](#)

31. Artificial silk is a

A. polypeptide

B. polysaccharide

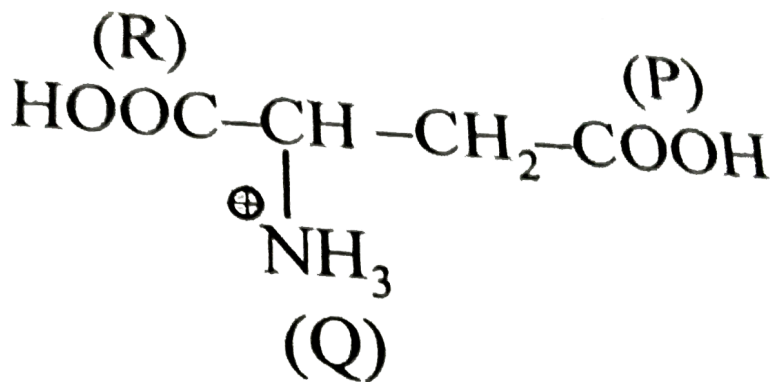
C. polythene

D. polyvinyl chloride

Answer: B



Watch Video Solution



32.

The pKa values for the three acidic group P,Q,R are 4.3, 9.7 and 2.2 respectively, Calculate the isoelectric point of the amino acid?

- A. 7.00
- B. 3.25
- C. 4.95
- D. 5.95

Answer: B



[Watch Video Solution](#)

33. Which can absorb large volume of hydrogen gas ?

A. Colloidal solution of palladium

B. Finely divided nickel

C. Finely divided platinum

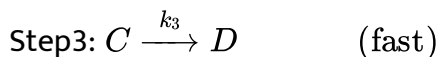
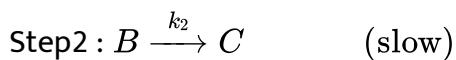
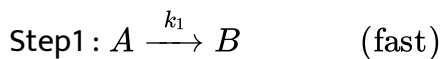
D. Colloidal $Fe(OH)_3$

Answer: A



Watch Video Solution

34. A reaction $A \rightarrow B$, involves following mechanism :



The rate law of the reaction may be given as :

A. rate = $k_1[A]$

B. rate = $k_2[A]$

C. rate = $k_3[A]$

D. rate = $k_1k_2k_3[B][C]$

Answer: B

 [Watch Video Solution](#)

35. Which of the following statement is incorrect ?

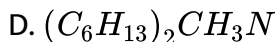
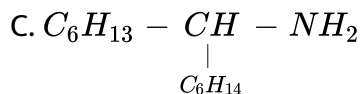
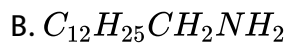
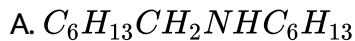
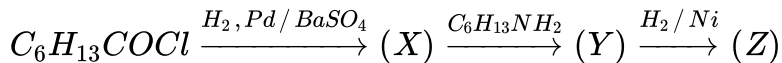
- A. The solution of alkali metal in liquid ammonia are strongly reducing in nature
- B. $BeCl_2$ is a linear molecule in vapour phase , but is polymeric in solid state
- C. Calcium carbide reacts with water to give acetylene
- D. Calcium is also an essential constituent of chlorophyll

Answer: D



Watch Video Solution

36. Identify the final product (Z) in the following sequence of reaction.

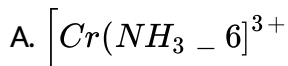


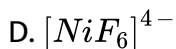
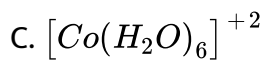
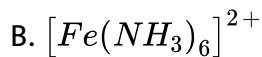
Answer: A



Watch Video Solution

37. Which of the following specie is diamagnetic in nature ?





Answer: B



Watch Video Solution

38. Aromatic aldehydes in the presence of cyanide ion as catalyst, are converted to acyloins. This reaction is called

A. Perkin reaction

B. Cannizzaro reaction

C. Benzoin condensation

D. Claisen condensation

Answer: C



Watch Video Solution

39. 40% (w/v) of NaCl solution (specific gravity = 1.12) is equivalent to

A. 3.57×10^5 ppm

B. 3.57×10^6 ppm

C. 1×10^6 ppm

D. 4×10^5 ppm

Answer: A



[Watch Video Solution](#)

40. Chromium is obtained by reducing concentrated chromite ore with :

A. red hot coke

B. gaseous hydrogen

C. aluminium powder

D. carbon monoxide

Answer: C



[Watch Video Solution](#)

41. Which of the following species must have maximum number of electrons in ' d_{xy} ' orbital?

A. Cr

B. Fe^{3+}

C. Cu^+

D. Both A and B

Answer: C



[Watch Video Solution](#)

42. In the closest packing of N atoms . There are

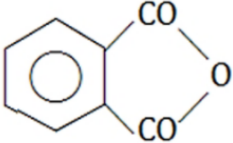
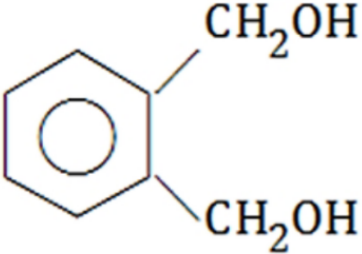
- A. N Tetrahedral voids and $2N$ octahedral voids
- B. $2N$ Tetrahedral voids and N octahedral voids
- C. $2N$ Tetrahedral voids and $2N$ octahedral voids
- D. N Tetrahedral voids and N octahedral voids

Answer: B



[Watch Video Solution](#)

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

List I (Reaction of LiAlH_4 with acid derivatives)	List II (Products)
(p) $\text{C}_6\text{H}_5\text{CH}_2\text{COOCH}_3$	1. $\text{PhCH}_2\text{CH}_2\text{NHMe}$
(q) 	2. PhCH_2OH
(r) PhCOCl	3. $\text{C}_6\text{H}_5\text{CH}_2\text{CH}_2\text{OH} + \text{HOCH}_3$
(s) $\text{PhCH}_2\text{CONHMe}$	4. 

A. (p) - 3, (q) - 4 , (r) - 1, (s) - 2

B. (p) - 3, (q) - 4 , (r) - 2, (s) - 1

C. (p) - 1, (q) - 2 , (r) - 3, (s) - 4

D. (p) - 2, (q) - 3 , (r) - 1, (s) - 4

Answer: B



Watch Video Solution

44. Consider the following statements:

Phenyl diazonium salts form azo dye with

I. aniline

II. Phenol

III. N, N - dimethyl aniline

IV. Anisole (methoxybenzene)

The correct statements is

A. 2,3,4 are correct

B. 1,3 and 4 are correct

C. 1,2 and 4 are correct

D. 1,2 and 3 are correct

Answer: D



Watch Video Solution

45. If the E_{cell}° for a given reaction has a positive value, then which of the following gives the correct relationship for the values of ΔG° and K_{eq} :-

A. $\Delta G^{\circ} > 0, K_{eq} < 1$

B. $\Delta G^{\circ} > 0, K_{eq} > 1$

C. $\Delta G^{\circ} < 0, K_{eq} > 1$

D. $\Delta G^{\circ} < 0, K_{eq} < 1$

Answer: A



Watch Video Solution