



CHEMISTRY

BOOKS - NTA MOCK TESTS

NTA NEET SET 108

Chemistry

1. Assuming fully decomposed, the volume of CO_2 released at STP on heating 9.85 g of $BaCO_3$ (Atomic mass of Ba=137) will be

A. 0.84L

B. 2.24L

C. 4.06L

D. 1.12L

Answer: D



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2. Which of the following compounds are not arranged in order of decreasing reactivity towards electrophilic substitution

A. Fluoro benzene gt chloro benzene gt
bromo benzene

B. Phenol gt n-propyl benzene gt benzoic
acid

C. Chloro toluene gt para-nitro toluene gt
2-chloro-4-nitro toluene

D. Benzoic acid gt phenol gt n-propyl
benzene

Answer: D



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3. Which experimental observation correctly account for the phenomenon ?

A.

Experimental observation	Phenomenon
(A) X-ray spectra	Charge on the nucleus

B.

Experimental observation	Phenomenon
(B) α -particle scattering	Quantized electron orbit

C.

Experimental observation	Phenomenon
(C) Emission spectra	The quantization of energy

D.

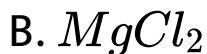
Experimental observation	Phenomenon
(D) The photoelectric effect	The nuclear atom

Answer: C



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4. The maximum covalent character is shown by



Answer: A



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5. Which compounds is achiral in the following?

A. 1- chloro-2- methyl pentane

B. 2- chloropentane

C. 1- chloropentane

D. 3- chloro- 2-methyl pentane

Answer: C



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6. Calculate the mass of sodium carbonate required to prepare 500 ml of a semi-normal solution

A. $13.25g$

B. $26.5g$

C. $53g$

D. $6.125g$

Answer: A



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7. Which alkene in the following is most stable?

A. 1-butene

B. 2-butene

C. 1-pentene

D. 2-pentene

Answer: B



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8. The formula for determination of density of cubic unit cell is :

A. $\frac{a^3 \times N_o}{Z \times M} gcm^{-3}$

B. $\frac{Z \times M}{a^3 \times N_o} gcm^{-3}$

C. $\frac{a^3 \times M}{Z \times N_o} gcm^{-3}$

D. $\frac{M \times N_o}{a^3 \times Z} gcm^{-3}$

Answer: B



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9. A nitrogen containing organic compound gave an oily liquid on heating with bromine and potassium hydroxide solution. On shaking the product with acetic anhydride, an antipyretic drug was obtained. The reactions indicate that the starting compound is

A. Aniline

B. Benzamide

C. Propanamide

D. Nitrobenzene

Answer: B



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10. The EAN of iron in potassium ferricyanide is

A. 18

B. 54

C. 35

D. 23

Answer: C



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11. At $27^{\circ}C$, hydrogen is leaked through a tiny hole into a vessel for 20 min. Another unknown gas at the same T and P as that of H_2 , is leaked through the same hole for 20 min. After the effusion of the gases the mixture exerts a pressure of 6 atm. The hydrogen content of the mixture is 0.7 mole. If the volume of the container is 3 litre, what is molecular weight of unknown gas ?

(Use: $R = 0.821L \text{ atm K}^{-1} \text{ mole}^{-1}$)

A. 1033

B. 2032

C. 1325

D. 2132

Answer: A



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12. Which of the following parameters would be expected to have the same values for C_2H_5OH and CH_3OCH_3 ?

A. Boiling points

B. Vapour pressure at the same temperature

C. Heat of vaporization

D. Gaseous densities at the same temperature

Answer: D



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13. Which elements are isotopes of each other in the above sequence of reaction?



- A. X and W
- B. Y and Z
- C. X and Z
- D. None of these

Answer: A

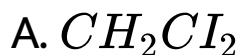


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14. What is X in the following reaction



offensive odour)

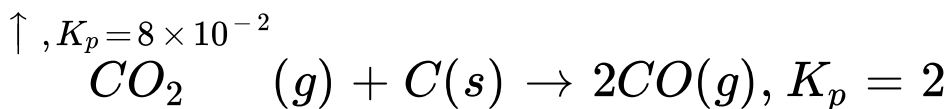
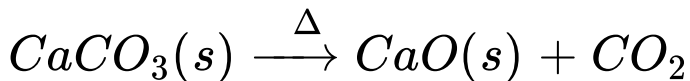


Answer: B



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15. Calculate the particle pressure of carbon monoxide from the following



A. 0.2

B. 0.4

C. 1.6

D. 4

Answer: B



16. Acetylene is obtained by the electrolysis of

- A. Sodium succinate
- B. Potassium fumarate
- C. Both (A) and (B)
- D. None of these

Answer: B



17. A solution was prepared by dissolving 0.0005 mol of $Ba(OH)_2$ in 100 mL of the solution. If the base is assumed to ionise completely, the pOH of the solution will be

A. 1

B. 5

C. 2

D. 14

Answer: A



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18. Among the following, one which reacts most readily with ethanol is

- A. P-nitrobenzyl bromide
- B. P- chlorobenzyl bromide
- C. P-methoxybenzyl bromide
- D. P- methylbenzyl bromide

Answer: C



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19. If ΔH is the change in enthalpy and ΔE the change in internal energy for a gaseous reaction then

A. ΔH is always greater than ΔE

B. $\Delta H < \Delta E$ only if the number of moles of the products is greater than the number of the reactants

C. ΔH is always less than ΔE

D. $\Delta H < \Delta E$ only if the number of moles of the products is less than the number of moles of the reactants

Answer: D



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20. What is true about $[EDTA]^{4-}$?

A. Monodenate ligand

B. Bidentate ligand

C. Quadridentate ligand

D. Hexadentate ligand

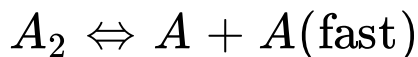
Answer: D

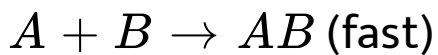


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21. A hypothetical reaction $A_2 + B_2 \rightarrow 2AB$

follows the mechanism as given below:





The order of the overall reaction is

A. $1\frac{1}{2}$

B. $3\frac{1}{2}$

C. 2

D. None of these

Answer: A



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22. Which of the following is not a non-electrolyte ?

A. Acetic acid

B. Glucose

C. Ethanol

D. Urea

Answer: A



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23. Match List I with List II and select the correct answer using the codes gives below :

	List I (Compound)		List II(Oxidation state of N)
(A)	NO ₂	(1)	+5
(B)	HNO	(2)	-3
(C)	NH ₃	(3)	+4
(D)	N ₂ O ₅	(4)	+1

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

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

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

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

Answer: C





24. Railway wagon axles are made by heating rods of iron embedded in charcoal powder.

The process is known as

A. Case hardening

B. Sheradizing

C. Annealing

D. Tempering

Answer: A

25. To stop bleeding from cut we use ferric chloride, it is because

A. Fe^{3+} ion coagulates blood, which is a negatively charged sol

B. Fe^{3+} ion coagulates blood, which is a positively charged sol

C. Cl^{-} coagulates blood, which is a positively charged sol

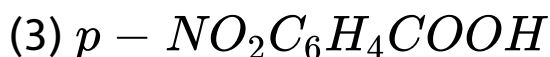
D. Cl^- ion coagulates blood, which is a negatively charged sol

Answer: A



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26. Consider the acidity of the carboxylic acids:



(4) $m - \text{NO}_2\text{C}_6\text{H}_4\text{COOH}$

Which of the following order is correct?

A. $b > d > a > c$

B. $b > d > c > a$

C. $a > b > c > d$

D. $b > c > d > a$

Answer: D



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27. In which two metals in the following pairs the difference between the ionic radii is maximum?

A. K, Ca

B. Mn, Fe

C. Co, Ni

D. Cr, Mn

Answer: A



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28. When rectified spirit and benzene are distilled together, the first fraction obtained is

A. A ternary azeotrope

B. Absolute alcohol

C. A binary azeotrope

D. Denatured spirit

Answer: A



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29. Which ore contains both iron and copper?

A. Cuprite

B. Chalcocite

C. Chalcopyrite

D. Malachite

Answer: C



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30. By the action of concentrated sodium hydroxide on benzaldehyde, the benzyl alcohol and sodium benzoate is obtained. The reaction is known as

- A. Perkin's reaction
- B. Cannizzaro's reaction
- C. Sandmeyer's reaction
- D. Claisen condensation

Answer: B



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31. Which of the following statements do not define the characteristic property of water

Water is a universal solvent ?

- A. It can dissolve maximum number of compounds
- B. It has very low dielectric constant
- C. It has high liquid range
- D. It has high dipole nature

Answer: B



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32. Glycerol boils at $290^{\circ}C$ with slight decomposition. Which of the following method is used to purify impure glycerine?

- A. Steam distillation
- B. Simple distillation
- C. Vaccum distillation
- D. Extraction with a solvent

Answer: C



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33. A metal M reacts with N_2 to give a compound ' A ' (M_3N). ' A ' on heating at high temperature gives back ' M ' and ' A ' on reacting with H_2O gives a gas ' B '. ' B ' turns $CuSO_4$ solution blue on passing through it A and B can be

A. Al and NH_3

B. Li and NH_3

C. Na and NH_3

D. Mg and NH_3

Answer: B



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34. When condensation product of hexamethylenediamine and adipic acid is heated to $553K(80^\circ C)$ in an atmosphere of

nitrogen for about 4 – 5 hours, the product obtained is

- A. Solid polymer of nylon 6,6
- B. Liquid polymer of nylon 6,6
- C. Gaseous polymer of nylon 6,6
- D. Liquid polymer of nylon 6

Answer: B



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35. In compounds of type ECl_3 , where $E = BP, As$ or Bi , the angles $Cl - E - Cl$ for different E are in the order

A. $B > P = As = Bi$

B. $B > P > As > Bi$

C. $B < P = As = Bi$

D. $B < P < As < Bi$

Answer: B



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36. Which of the following is used as a hypnotic?

A. Luminal

B. Salol

C. Catechol

D. Chemisol

Answer: A



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37. What is true about concept of hybridisation of atomic orbital?

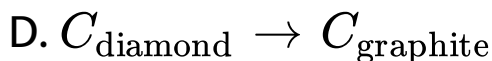
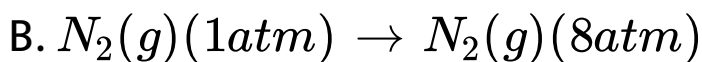
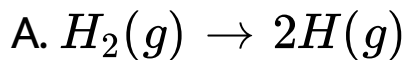
- A. Addition of an electron pair
- B. Mixing up of atomic orbitals
- C. Removal of an electron pair
- D. Separation of orbitals

Answer: B



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38. Which of the following process has negative value of ΔS ?



Answer: B



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39.

Given

$l/a = 0.5\text{cm}^{-1}$, $R = 50\text{ohm}$, $N = 1.0$. The equivalent conductance of the electrolytic cell is .

A. $10\text{ohm}^{-1}\text{cm}^2\text{geq}^{-1}$

B. $20\text{ohm}^{-1}\text{cm}^2\text{geq}^{-1}$

C. $300\text{ohm}^{-1}\text{cm}^2\text{geq}^{-1}$

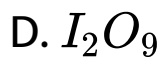
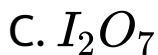
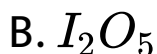
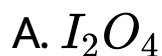
D. $100\text{ohm}^{-1}\text{cm}^2\text{geq}^{-1}$

Answer: A



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40. Which of the following is the most covalent in nature ?



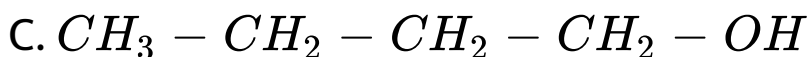
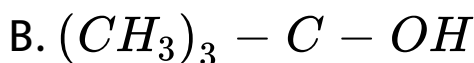
Answer: B



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41. The alcohol which easily reacts with conc.

HCl is

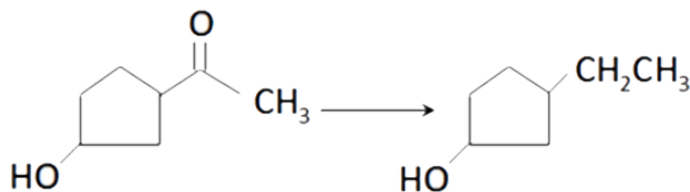


Answer: B



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42. Which is the appropriate reagent for the given transformation



A. $Zn(Hg), HCl$

B. NH_2NH_2, OH^-

C. H_2 / Ni

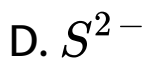
D. $NaBH_4$

Answer: B



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43. A salt solution reacts with some drops of chloroform and the mixture is shaken with chlorine water. The chloroform layer becomes violet. Salt solution contains:



Answer: B



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44. A certain buffer solution contains equal concentration of X^{\ominus} and HX . The K_b for X^{\ominus} is 10^{-10} . The pH of the buffer is

- A. 4
- B. 7
- C. 10
- D. 14

Answer: A



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45. The product of Reimer-Tiemann reaction is

a

A. Carbonium ion intermediate

B. Carbene intermediate

C. Carbanion intermediate

D. Free radical intermediate

Answer: B



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