



CHEMISTRY

NTA MOCK TESTS ENGLISH

NTA NEET SET 69

Chemistry

1. 4.88 g of $KClO_3$ when heated produced 1.92 g of O_2 and 2.96 g of KCl.

Which of the following statements regarding the experiment is correct?

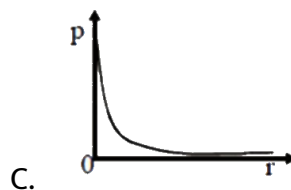
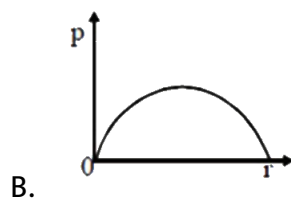
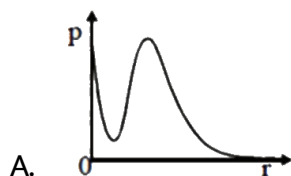
- A. The result illustrates the law of conservation of mass
- B. The result illustrates the law of multiple properties
- C. The result illustrates the law of constant proportion.
- D. None of the above laws is followed

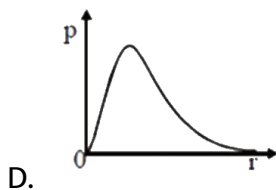
Answer: A



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2. P is the probability of finding the $1s$ electron of hydrogen atom in a spherical shell of infinitesimal thickness dr , at a distance r from the nucleus. The volume of this shell is $4\pi r^2 dr$. The qualitative sketch of the dependence of P on r is





Answer: D



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3. The first ionisation potential of Na is $5.1eV$. The value of electron gain enthalpy of Na^+ will be

A. $-5.1eV$

B. $-10.2eV$

C. $+2.55eV$

D. $-2.55eV$

Answer: A



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4. Among $LiCl$, $RbCl$, $BeCl_2$, $MgCl_2$, the compounds with greatest and least ionic character respectively are

A. $LiCl$, $RbCl$

B. $RbCl$, $BeCl_2$

C. $RbCl$, $MgCl_2$

D. $MgCl_2$, $BeCl_2$

Answer: B



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5. $M(OH)_x$ has a K_{sp} of 4×10^{-9} and its solubility is 10^{-3} M. The value of x is

A. 4

B. 1

C. 3

D. 2

Answer: D



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6. Two gases A and B having the same temperature 'T' , Same pressure 'P' and same volume 'V' are mixed . If the temperature of mixture is unchanged and the volume occupied by it is ' $V/2$ ' , then the pressure of the mixture will be

A. $P/2$

B. P

C. 2P

D. 4P

Answer: D



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7. Which of the following is not true about polymers ?

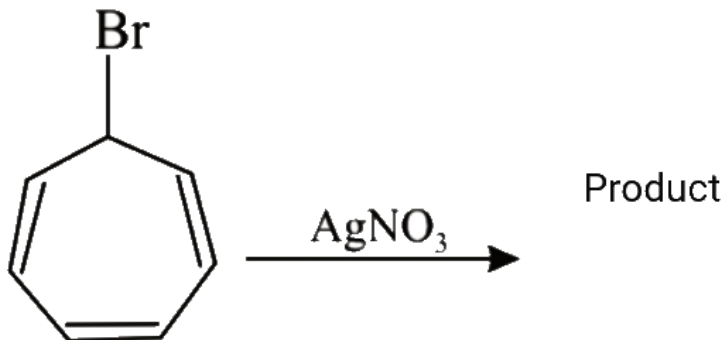
- A. Polymers are high molecular mass macromolecules
- B. Polymers may be of natural or synthetic origin
- C. Generally condensation polymers are made up of one type of monomers only
- D. They have high viscosity and do not carry any charge

Answer: C



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8. Which is the incorrect statement about the product ?



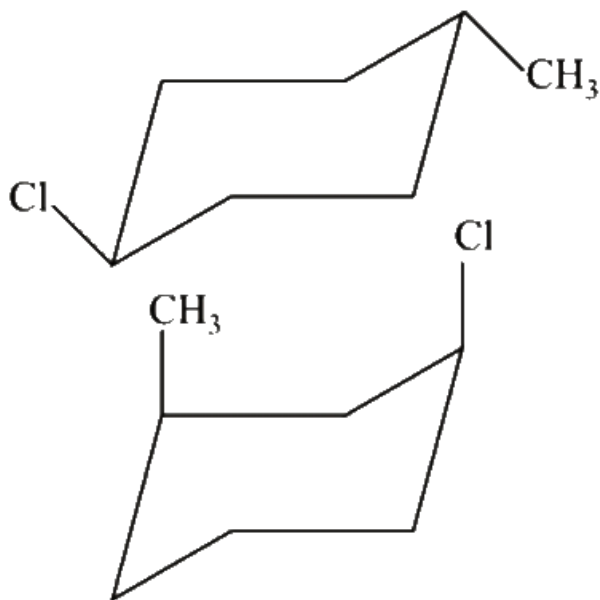
- A. Product is aromatic
- B. Product has high dipole moment
- C. Product has less resonance energy
- D. Product is soluble in water

Answer: C



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9. What is the relationship between the two structures shown ?



A. constitutional isomers

B. stereoisomers

C. different way of representation of a same conformation of the same compound

D. different conformation of the same compound

Answer: A

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10. Standard entropies of X_2 , Y_2 and XY_3 are 60, 30 and $50 JK^{-1}mol^{-1}$ respectively. For the reaction $\frac{1}{2}X_2 + \frac{3}{2}Y_2 \rightleftharpoons XY_3$, $\Delta H = -30 kJ$ to be at equilibrium, the temperature should be :

- A. 750 K
- B. 1000 K
- C. 1250 K
- D. 500 K

Answer: A

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11. The oxidation state of platinum in $Na[PtBrCl(NO_2)(NH_3)]$ is

- A. +2

B. +4

C. +6

D. 0

Answer: A



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12. pK_a of a weak acid is 5.76 and pK_b of a weak base is 5.25. What will be the pH of the salt formed by the two ?

A. -7.255

B. 7.005

C. 10.25

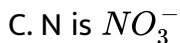
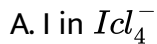
D. 4.25

Answer: A



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13. Hybridisation of 'P' in PO_4^{3-} is same as that of : -



Answer: D



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14. The E_a of reaction in the presence of catalyst is 4.15 KJ/mol and in absence of catalyst is $8.3KJmol^{-1}$. What is the slope of the plot of $\ln k$ vs $\frac{1}{T}$ in the absence of catalyst.

A. +1

B. -1

C. + 1000

D. - 1000

Answer: D



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15. Lead is not affected by dil . HCl in cold , because

A. Pb is less electronegative than H

B. PbO film is formed which resists chemical attack by acid.

C. A protective coating of $PbCl_2$ is formed on Pb surface

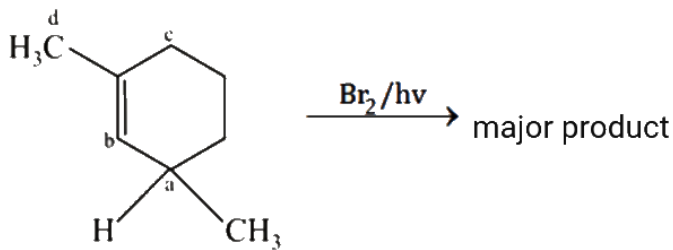
D. PbO_2 of film is always present on Pb surface , which resists chemical attack

Answer: C



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16. Bromination takes place majority at



major

product

A. a

B. b

C. c

D. d

Answer: A



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17. Which of the following solutions will have highest boiling point?

- A. 1% solution of glucose in water
- B. 1% solution of sucrose in water
- C. 1% solution of sodium chloride in water
- D. 1% solution of calcium chloride in water

Answer: C



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18. The compound $K_2[PtCl_4]$ would have a molar conductivity in aqueous solution most closely approaching that of

- A. KNO_3
- B. CCl_4
- C. $MgSO_4$
- D. Na_2SO_4

Answer: D



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19. The open glucose and fructose have ____ and ____ chiral centre

A. 4,4

B. 4,3

C. 3,3

D. 3,4

Answer: B



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20. Which of the following ideal gases has higher value of average kinetic energy per mole at the same temperature - N_2 , CO_2 , O_2 ?

A. N_2

B. CO_2

C. O_2

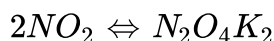
D. All have equal value of KE

Answer: D



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21. Consider the reactions $\frac{1}{2}N_2 + O_2 \rightleftharpoons NO_2 K_1$



Using above equations , write down expression for K of the following reaction $N_2O_4 \rightleftharpoons N_2 + 2O_2 K$

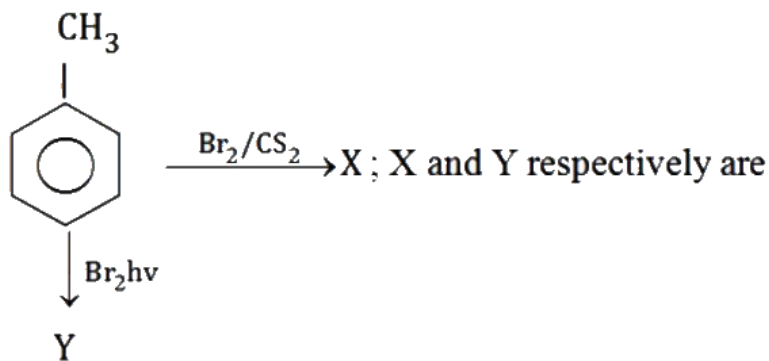
A. $K_1 K_2$

B. $\frac{K_2^2}{K_1}$

C. $\frac{1}{K_1 K_2^2}$

D. $\frac{1}{K_1^2 K_2}$

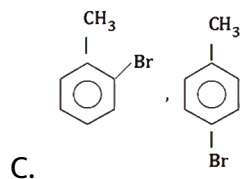
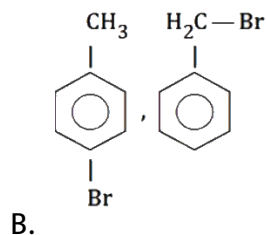
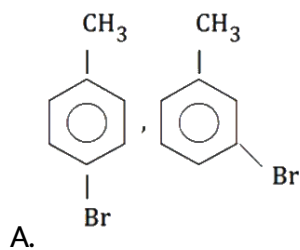
Answer: D

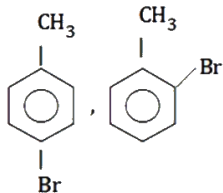


22.

X and Y

respectively are





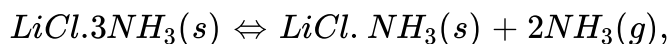
D.

Answer: B



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23. For the equilibrium



$K_p = 9 \text{ atm}^2$ at 37°C . A 5 litre vessel contains 0.1 mole of $LiCl \cdot NH_3$

How many moles of NH_3 should be added to the flask at this

temperature to drive the backward reaction for completion?

Use: $R = 0.082 \text{ atm} \cdot \text{L} / \text{molK}$

A. 0.49

B. 0.59

C. 0.69

D. 0.79

Answer: D



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24. The tranquilizer obtained from the plant Rauwolfia Serpentine is

A. reserpine

B. iproniazid

C. chlorodiazepoxide

D. meprobamate

Answer: A



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25. Which of the following practices involve green chemistry ?

- (i) Substitute CFCs by environmental friendly HFCs and other compounds
- (ii) Replace halogenated solvent by liquid CO_2 for drycleaning ,
- (iii) Use of H_2O_2 for bleaching instead of Cl_2
- (iv) Use of tamarind seeds to clean municipal and industrial waste water.

A. (i) and (ii)

B. (ii) and (iv)

C. (iii) and (iv)

D. (i),(ii) nad (iii)

Answer: D

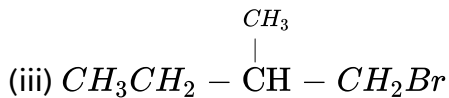


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26. Arrange the following compounds in order of their reactivity towards

S_N2 reaction

- (i) $CH_3(CH_2)_3CH_2Br$



A. $(i) > (iii) > (ii)$

B. $(ii) > (iii) > (i)$

C. $(iii) > (i) > (ii)$

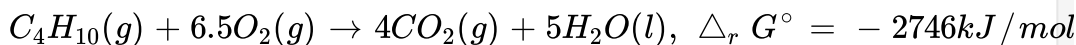
D. $(ii) > (i) > (iii)$

Answer: A



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27. 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) 4.37V

(d) 1.09V

A. 0.8 V

B. 1 V

C. 1.2 V

D. 1.4 V

Answer: B



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28. Ethylene dichloride and ethylidene chloride are isomeric compounds.

The false statement about these isomers is that they

A. are both hydrolysed to the same product

B. contain the same percentage of chlorine

C. are position isomers

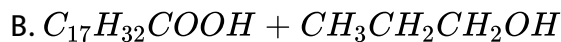
D. react with alcoholic potash and give the same product

Answer: A



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29. What are the hydrolysis products of glyceryl oleate $(C_{17}H_{32}COO)_3C_3H_5$ during preparation of soap?

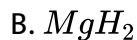


Answer: D



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30. Which of the following is least stable ?



Answer: D



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31. incorrect statement for transition element is

A. They have low melting and boiling points (or low enthalpies of atomization)

B. 5d - elements have higher ionization energies than 3d or 4d elements

C. Zr and Hf have almost identical atomic and ionic radii

D. They form interstitial compounds

Answer: A



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32. Which of the following is the most basic oxide ?

A. SeO_2

B. Al_2O_3

C. Sb_2O_3

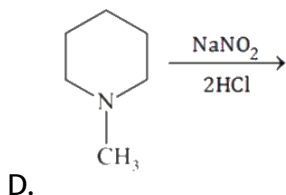
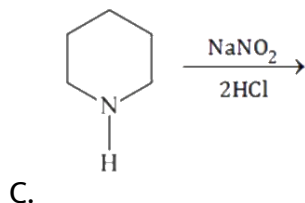
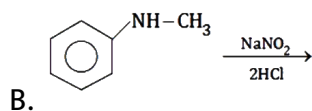
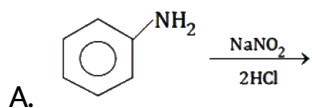
D. Bi_2O_3

Answer: D



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33. In which of the reaction formation of Diazonium salt takes place ?



Answer: A



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34. The condition for methamoglobinemia by drinking water is

- A. > 50 Ppm lead
- B. > 50 Ppm chloride
- C. > 50 Ppm nitrate
- D. > 100 Ppm sulphate

Answer: C



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35. Zinc blende is which ore of zinc

- A. Oxide
- B. Sulfide
- C. Carbonate
- D. None of the above

Answer: B



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36. Hydrogen peroxide in its reaction with KIO_4 and NH_4OH respectively, is acting as a

- A. reducing agent, oxidising agent
- B. reducing agent , reducing agent
- C. oxidising agent , oxidising agent
- D. oxidising agent , reducing agent

Answer: D



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37. The oxidation state of nitrogen is correctly given for

- A.

Compound	Oxidation
NH_3	+3
- B.

Compound	Oxidation
$[Co(NH_3)_5Cl]$	+1

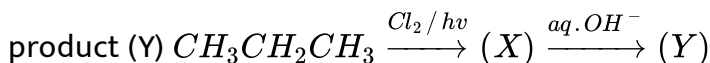
- C. Compound Oxidation
 Mg_3N_2 -3
- D. Compound Oxidation
 NH_2OH $+1$

Answer: C



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38. Consider the following sequence of reaction. Identify the final



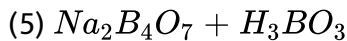
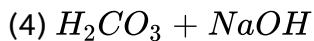
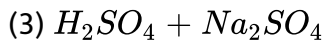
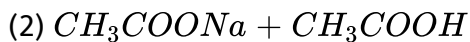
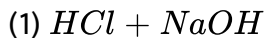
- A. propan -1 -ol
- B. propan -2- ol
- C. mixture of both propan -1-ol and propan - 2 - ol
- D. ethanol

Answer: B



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39. How many of the following combination act as buffer



A. 3

B. 4

C. 2

D. 6

Answer: B

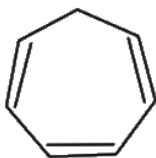


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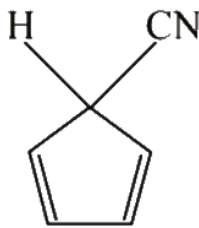
40. Decreasing order of acidic strength of following compound is



X



Y



Z

A. $X > Y > Z$

B. $Y > X > Z$

C. $Z > Y > X$

D. $Z > X > Y$

Answer: D



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41. Formic acid and acetic acid can be distinguished with

A. sodium

B. $HgCl_2$

C. 2, 4 - dinitrophenyl hydrazine

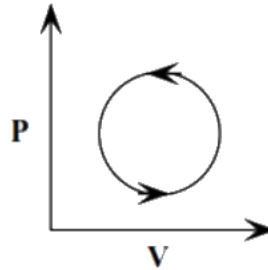
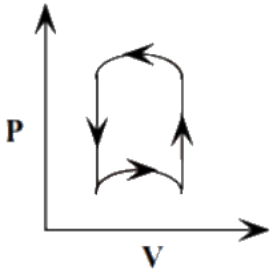
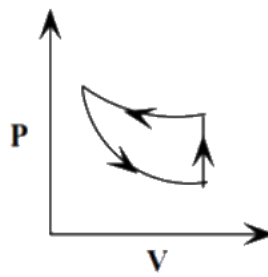
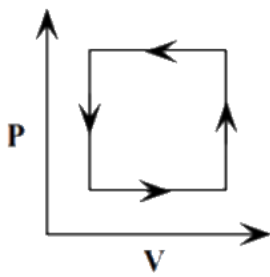
D. $CH_3CH_2O^-Na^+$

Answer: B



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42. What will be nature of change in internal energy in case of processes shown below ?



A. $+ve$ in all cases

B. $-ve$ in all cases

C. cannot say

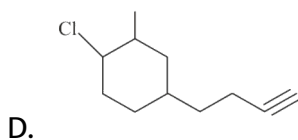
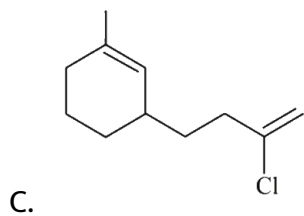
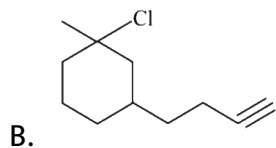
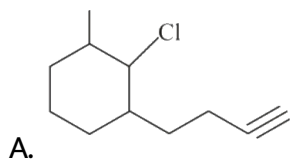
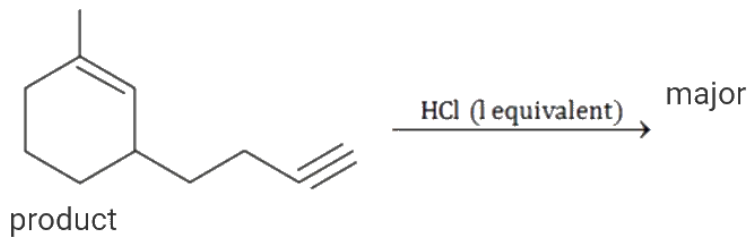
D. zero in all cases

Answer: D



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43. Predict the major product / s of the given reaction



Answer: B



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44. The ratio of areas within the electron orbits for the first excited state to the ground state for hydrogen atom is

A. 16:1

B. 4:1

C. 8:1

D. 1:8

Answer: A



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