CHEMISTRY

BOOKS - FULL MARKS CHEMISTRY (TAMIL ENGLISH)

SAMPLE PAPER 12 (UNSOLVED)

Part I

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1. $Zn_{(s)} + Cu^{2+}_{(aq)} \rightarrow Zn^{2+}_{(aq)} + Cu_{(s)}$. In this reaction, which gets oxidised ?

A. Cu^{2+}

B. Zn^{2+}

C. Zn

D. Zn, Cu^{2+}

Answer: C

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2. de- Broglie equation is ....

A. E= hv

B. $E = mc^2$

C. $\lambda = \dfrac{h}{p}$

D. $hv = mc^2$

Answer: C

3. Which one of the following is in solid state at room temperature ?

A. Bromine

B. Mercury

C. Bismuth

D. Gallium

Answer: C

4. The hardness of water can be determined by volumetrically using the reagent ....

    A. soldium thio sulphate

    B. potassium permanganate

    C. hydrogen peroxide

    D. EDTA

Answer: D

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5. The table indicates the value of van der Waals constant 'a' in $(dm^3)^2$ atm mol^{-2}

The gas which can be most easily liquefied is ....

A. O_2

B. N_2

C. NH_3

D. CH_4

Answer: C

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6. The value of ΔH for cooling 2 moles of an ideal monoatomic gas from $125°C$ to $25°C$ at constant pressure will be [given $C_p = \dfrac{5}{2}R$] ....

A. $-250R$

B. $-500R$

C. 500 R

D. $+250R$

Answer: B

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7. Statement - I : A pure solid in an equilibrium reaction has the same concentration at a given temperature .

Statement II : The solid does not expand to fill its container and it has same number of moles of its volume.

A. Statement I and II are correct and statement II is the correct explanation of statement of I .

B. Statement I and II are correct but II is not the correct explanation of I.

C. Statement I and II are not correct .

D. Statement I is wrong but II is correct.

Answer: A

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8. The Henry's law constant for the solubility of Nitrogen gas iin water at 350 K is 8×10^4 atm. The mole fraction of nitrogen in air is 0.5 . The number of moles of Nitrogen from

air dissolved in 10 moles of water at 350 K and 4 atm pressure is ....

A. 4×10^{-4}

B. 4×10^4

C. 2×10^{-2}

D. 2.5×10^{-4}

Answer: D

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9. In which of the following compounds does the central atom obey the octel rule ?

A. XeF_4

B. $AlCl_3$

C. SF_6

D. SCl_2

Answer: D

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10. Which of the following is an example of non-benzenoid aromatic compound ?

A. Toluene
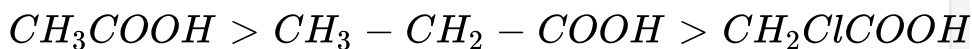
B. Phenol

C. Benzyl - alcohol

D. azulene

Answer: D

11. Pick out the correct order of acid strength .

A.

$$CH_3 - CH_2 - COOH > CH_3COOH > CH_2ClCOOH$$

B.

$$CH_3COOH > CH_3 - CH_2 - COOH > CH_2ClCOOH$$

C.

$$CH_3ClCOOH > CH_3COOH > CH_3 - CH_2 - COOH$$

D.

$$CH_2ClCOOH > CH_3 - CH_2 - COOH > CH_3COOH$$

Answer: C

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12. Consider the following statements .

(i) Lindlar's catalyst is $CaCO_3$ supported in Pd.

(ii) Lindlar's catalyst is stereospecific catalyst

(iii) Using Lindlar's catalyst alkynes undergoes reduction of

form trans-alkenes.

Which of the above statement is/are not correct ?

    A. (i) only

    B. (ii) only

    C. (iii) only

    D. (ii) and (iii)

Answer: C

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13. The name of $C_2H_4Cl_2$ is ....

    A. Freon-112

    B. Freon-113

    C. Freon-114

    D. Freon-115

Answer: C

14. The pollutant released in Bhopal gas tragedy was...................
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A. Ammonia

B. Mustard gas

C. Nitrous oxide

D. Methy isocyanate

Answer: D

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Part Ii

1. How many moles of hydrogen is required to produced 20 moles of ammonia ?

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2. Which quantum number reveal information about the shape energy, orientation and size of orbitals ?

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3. Write about the important uses of calcium.

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4. Why do astronauts have to wear protective suits when they are on the surface of moon ?

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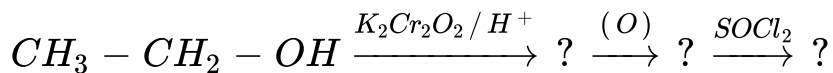**5.** What are thermochemical equation ?

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6. State Le-Chatelier principle.

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7. How will you detect the oxygen from organic compounds ?

8. Complete the reaction and name the products.

$$CH_3 - CH_2 - OH \xrightarrow{K_2Cr_2O_2/H^+} ? \xrightarrow{(O)} ? \xrightarrow{SOCl_2} ?$$

9. What is environmental chemistry ?