CHEMISTRY

BOOKS - FULL MARKS CHEMISTRY (TAMIL ENGLISH)

SAMPLE PAPER -19 (UNSOLVED)

Part I

1. Which one of the following is a diatomic molecule?

    A. Ozone

    B. Copper

    C. Hydrogen

    D. Gold

Answer:

2. The energy of light of wavelength 45 nm is .....

A. $6.67 \times 10^{15} J$

B. $6.67 \times 10^{11} J$

C. $4.42 \times 10^{-18} J$

D. $4.42 \times 10^{-15} J$

Answer:

3. Which of the following statements related to the modern periodic table is incorrect?

A. The p-block has 6 columns, because a maximum of 6 electrons can

occupy all the orbitals in a p-subshell.

B. The d-block has 8 columns, because a maximum of 8 electrons can occupy all the orbitals in a d-subshell.

C. Each block contains a number of columns equal to the number of electrons that can occupy that subshell,

D. The block indicates value of azimuthal quantum number (1) for the last subshell that · received electrons in building up the electronic configuration.

Answer:

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4. Tritium nucleus contains............

A. $1P + 0n$

B. $2p + In$

C. $1p + 2n$

D. none of these

Answer:

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5. Equal weights of methane and oxygen is mixed in an empty container at 298 K. The fraction .of total pressure exerted by oxygen is .....

A. $1/3$

B. $1/2$

C. $2/3$

D. $1/3 \times 273 \times 298$

Answer:

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6. Which of the following relation is true?

A. $C_p > C_V$

B. $C_V > C_P$

C. $C_p = C_v$

D. $C_P = C_v = 0$

Answer:

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7. Find the value of the reaction $H_2(g) + I_2(g) \Leftrightarrow 2HI(g)$ at an instant where concentration of $H_2 I_2$ and $'HI$ are found to be $0.2 mol L^{-1}, 0.2 mol L^{-1}$, and 0.6 mol L^{-1} respectively.

A. 48

B. 9

C. 0.9

D. 90

Answer:

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8. In which of the following compound the solubility decreases with increase of temperature?
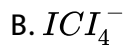
A. sodium chloride

B. ammonium nitrate

C. ceric sulphate

D. calcium chloride

Answer:

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9. Which one of the following has linear shape?

A. I_3^-

B. ICI_4^-

C. BeF_5

D. IOF_5

Answer:

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10. Alcohol on refluxing with $K_2Cr_2O_7$ gives .....

A. Ester

B. Aldehyde

C. Sugar

D. Carboxylic acid

Answer:

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11. Benzene undergoes Birch reduction to form.............

A.

B.

C.

D.

Answer:

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12. Arrange the following compounds in increasing order of their density.

(A)CCI_4 (B)$CHCI_3$ (C)CH_2CI_2 (D)CH_3CI,

A. $D < C < B < A$

B. $C > B > A > D$

C. $A < B < C < D$

D. $C > A > B > D$

Answer:

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13. Assertion (A): Excessive use of chlorinated pesticide causes soil and water pollution.

Reason (R): Such pesticides are non-biodegradable. '

A. Both (A) and R are correct and (R).is the correct explanation of (A)

B. Both (A) and R are correct and (R) is not the correct explanation of (A)

C. Both (A) and R are not correct

D. (A) is correct but (R) is not correct

Answer:

Part Ii

1. Explain how matter has dual character?

2. Complete the following chemical reactions and classify them into (a) hydrolysis (b) redox (c) hydration reactions. ..

$(i) KMnO_4 + H_2O_2 \rightarrow ?$ $(b) CrCl_3 + H_2O \rightarrow ?$ $(c) CaO + H_2O \rightarrow$

3. Mention the uses of plaster of paris.

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4. Define enthalpy of neutralization.

5. Write a balanced chemical equation for à equilibrium reaction for which the equilibrium constant is given by expression,

$$(I) K_C = \frac{(NH_3)^4 [O_2]^5}{[NO]^4 [H_2 P]^6}$$
$$(ii) K_C = \frac{[H_2][I_2]}{[HI]^2}$$

6. Phenol dimerises in benzene having Van't Hoff factor 0.54. What is the degree of association?

7. How will you prepare benzene from coal tar?

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8. Write a notes on Williamson ether synthesis.

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9. Why Grignard reagent should be prepared in anhydrous condition?

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