



CHEMISTRY

BOOKS - FULL MARKS CHEMISTRY

(TAMIL ENGLISH)

SAMPLE PAPER -20 (MOCK TEST PAPER)

Part I

1. 1. When 22.4 litres of $H_2(g)$ is mixed with 11.2 litres of $Cl_2(g)$ each at 273 K at 1 atm the moles of HCl (g), formed is equal to.....

- A. 2 moles of HCl (g)
- B. 0.5 moles of HCl (g)
- C. 1.5 moles of HCl (g)
- D. 1 mole of HCl (g)

Answer:



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2. Choose the incorrect statement.

A. Atomic radius of elements increases with increase in atomic number as we go down the group:

B. Atomic radius of elements increases with increase in atomic number as we go across the period.

C. Atomic radius of elements decreases as we go from left to right in a period.

D. Electronegativity is not a measurable quantity.

Answer:



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3. Which of the following statements about hydrogen is incorrect ?

A. Hydrogen ion, H_3O^+ exists freely in solution.

B. Dihydrogen acts as a reducing agent.

C. Hydrogen has three isotopes of which tritium is the most common.

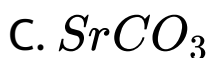
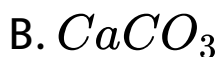
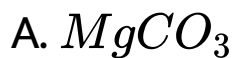
D. Hydrogen never acts as cation in ionic salts.

Answer:



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4. Which of the following is the least thermally stable?



Answer:



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5. The temperatures at which real gases obey the ideal gas laws over a wide range of pressure is called ..

- A. Critical temperature
- B. Boyle temperature
- C. Inversion temperature
- D. Reduced temperature

Answer:



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6. Which of the following does not result in an increase in the entropy?

A. Crystallisation of sucrose from solution

B. Rusting of iron

C. Conversion of ice to water

D. Vapourisation of camphor

Answer:



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7. Which one of the following law is used to explain gas-solution equilibrium processes?

A. Boyle's law

B. Graham's law

C. Henry's law

D. Charle's law

Answer:



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

A. 0.46

B. 92

C. 46

D. 0.92

Answer:



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9. Pick out the incorrect statement from the following.

A. sp^3 hybrid orbitals are equivalent and are at an angle of $109^\circ 28'$ with each other.

B. dsp^2 hybrid orbitals are equivalent and bond angle between any two of them is 90°

C. All five sp^3d hybrid orbitals are not equivalent. Out of these five sp^3d hybrid

orbitals, three are at an angle of 120° ,
remaining two are perpendicular to the
plane containing the other three

D. none of these

Answer:



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10. Which of the following pair gives curdy white precipitate and yellow precipitate respectively in their Lassaignes test?

A. C_2H_5I and C_2H_5Br

B. $C_2H_5NO_2$ and $C_2H_5NH_2$

C. C_6H_5Cl and CH_3I

D. CH_4 and CH_3OH

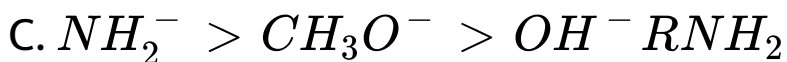
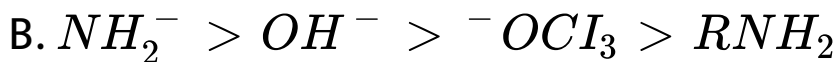
Answer:



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11. Decreasing order of nucleophilicity is

A. $OH^- > NH_2^- > ^-OCH_3 > RNH_2$



Answer:

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12. Benzene reacts with Cl_2 in the presence of sunlight to give....

A. BHC

B. PET

C. SO_2

D. SO_3

Answer:



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13. The raw material for Rasching process is

.....

A. chlorobenzene

B. phenol

C. benzene

D. anisole

Answer:



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Part ii

1. State Avogadro's Hypothesis.



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2. Mention the uses of deuterium..



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3. Why beryllium has distinctive character?



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4. Explain about the applications of Graham's law of diffusion.



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5. Calculate the entropy change of a process

$H_2O_{(f)} \rightarrow H_2O_{(g)}$ at 373K. Enthalpy of

vaporization of water is $40850 \text{ J Mole}^{-1}$



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6. Define Bond order.



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7. Write the possible metameric structure for C_4H_{10} .

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8. Calculate the number of rings present in $C_{18}H_{12}$

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9. How is acid rain formed?





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