



CHEMISTRY

BOOKS - FULL MARKS CHEMISTRY (TAMIL ENGLISH)

SAMPLE PAPER 15 (UNSOLVED)

Part I

1. The oxidation number of Cr in $K_2Cr_2O_7$ and K_2CrO_4 are

A. +6, +3

B. +3, +6

C. +3, +6

D. +6, +6

Answer: D

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2. The total number of orbitals associated with the principal quantum number $n = 3$ is..... .

A. 9

B. 8

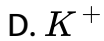
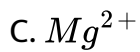
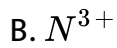
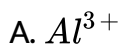
C. 5

D. 7

Answer: A

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3. Which one of the following is not an isoelectronic ion?



Answer: D



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4. Which of the following is a saline hydride?

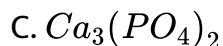


Answer: C



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5. The name 'Blue John' is given to which of the following compounds?



Answer: B



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6. The final temperature of an engine whose initial temperature is 400K and having efficiency 25%.

A. 200K

B. 400K

C. 300K

D. 450K

Answer: C



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7. Consider the reaction where , $K_P = 0.5$ at a particular temperature



if the three gases are mixed in a container so that the partial pressure of each gas is initially 1 atm, then which one of the following is true.

A. more PCl_3 will be produced

- B. more Cl_2 will be produced
- C. more PCl_3 will be produced
- D. none of these

Answer: C

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8. Ethylene glycol is mixed with water and used as antifreezer in radiators because

- A. it has low vapour pressure
- B. it raises the boiling point of water
- C. it lowers the freezing point of water
- D. it change osmotic pressure

Answer: C



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9. In acetylene molecule between the carbon atoms there are

- A. three sigma bonds
- B. two sigma bonds and one pi bond
- C. one σ and two π bonds
- D. three pi bonds

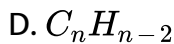
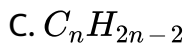
Answer: C



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10. The general formula for alkadiene is..... .

- A. C_nH_{2n}



Answer: C



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11. Consider the following statements.

(i) In the elimination reaction two substituents are eliminated from the molecule.

(ii) New C-C single bond is formed.

(iii) It is always accompanied with change in hybridization.

Which of the statement is/are correct?

A. (i) only

B. (i) and (ii)

C. (i) and (iii)

D. (ii) and (iii)

Answer: C



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12. Statements-I: Unlike alkenes and alkynes benzene undergoes substitution reactions rather than addition reaction under normal conditions.

Statements-II: Because of the delocalisation of electrons a strong π bond is formed which makes the molecule stable.

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

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

C. Statement-I is correct but statement - II is wrong.

D. Statement-I is wrong but statement - II is correct.

Answer: A

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13. The major products obtained when chlorobenzene is nitrated with HNO_3 and conc. H_2SO_4

A. 1-chloro-4-nitrobenzene

B. 1-chloro-2-nitrobenzene

C. 1-chloro-3-nitrobenzene

D. 1-chloro-1-nitrobenzene

Answer: A

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Part ii

1. Electron affinity of oxygen is less negative than sulphur. Justify this statement.

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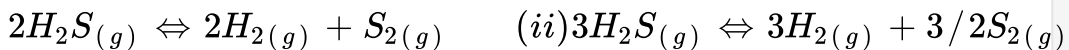
2. What is permanent hardness of water? How it will be removed?

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3. Why are potassium and cesium, rather than lithium used in photoelectric cells ?

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4. At particular temperature $K_C = 4 \times 10^{-2}$ for the reaction, calculate K_C for each of the follow reaction. (i)



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5. What is elevation of boiling point?

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6. List out the exception to the octet rule.

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7. How will you detect phosphorous from organic compounds?

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8. Complete the reaction and name the reaction,



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9. How was mists formed? List out the examples for mist.

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