



# CHEMISTRY

## BOOKS - VGS PUBLICATION-BRILLIANT

### TS MARCH-2017

#### Section A

1. Name two adverse effects caused by acid rains.



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2. What is Chemical Oxygen Demand (COD) ?



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3. Write the functional isomers of organic compound  $C_3H_6O$ .



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4. What is inert pair effect ?



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5. Write the biological importance of Na<sup>+</sup> ions.



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6. Define ionic product of water. What is the value at room temperature?



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7. Calculate kinetic energy of 5 moles of Nitrogen at  $27^{\circ}C$ .



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8. Calculate the oxidation number in  $Cr_2O_7^{-2}$  ion on chromium (Cr) atom.



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**9.** What is Plaster of Paris? Write a short note on it.



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**10.** Give the formula of borazine . What is its common name ?



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**Section B**

1. Write the postulates of kinetic Molecular Theory of Gases.



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2. A compound contains 4.07% hydrogen, 24.27% carbon and 71.65% chlorine. Its molar mass is 98.96 g. What are its empirical and molecular formulas ?



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3. a) State the third law of thermodynamics. B)

Define entropy.



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4. Explain the concept of Bronsted acids and Bronsted bases. Illustrate the answer with suitable examples.



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5. Explain, with suitable examples, the following:

(iii) Electron-rich hydrides.



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6. Explain the differences in properties of diamond and graphite on the basis of their structures.



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7. Explain Wurtz reaction and Friedel- Crafts alkylation with examples.



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8. What is polymerization? Explain with one example.



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**Section C**

1. Write the postulates of Bohr's model of hydrogen atom. What are the limitations of Bohr's model of an atom ?



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2. Explain the significance of 'n' and 'l' quantum numbers.



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3. What is hybridization? Explain  $sp$ ,  $sp^2$  and  $sp^3$  hybridizations with one example each .



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4. Define  $IE_1$  and  $IE_2$ . Why is  $IE_2 > IE_1$  for a given atom? Discuss the factors than effect IE of an element.



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