# CHEMISTRY

# BOOKS - VGS PUBLICATION-BRILLIANT

# MODEL PAPER 2

## Section A

**1.** What is Plaster of Paris? Write its uses.

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**2.** What agrochemicals are responsible for water pollution ?

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**3.** Name the common components of photochemical smog.

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**4.** Potassium carbonate cannot be prepared by Solvey process. Why?

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**5.** What is the effect of pressure on gaseous chemical equilibrium?

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**6.** What are intensive and extensive properties?

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**7.** State the third law of thermodynamics.

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**8.** Calculate the amount of Carbon dioxide that could be produced when one mole of Carbon

is burnt in 16g of dioxygen.

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**9.** Calculate the ratio of kinetic energies of 3g of hydrogen and 4g of oxygen at an given temperature.

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**10.** Write IUPAC names of the following compounds :

$(CH_3)_2C(C_2H_5)_2$

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**11.** Write IUPAC names of the following compounds:

$$CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_3$$

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## Section B

**1.** Deduce a Charles, law b. Graham's law of diffusion from kinetic gas equation.

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**2.** Balance the following redox reaction in basic medium by ion-electron method :

$$MnO_{4(aq)}^{-} + 1_{(aq)}^{-} \rightarrow MnO_{2(s)} + 1_{2(s)}$$

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**3.** What is a conjugate acid-base pair ? Write the conjugate acid and conjugate base of each of the following :

a) $OH^-$ b) $HCO_3^-$

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**4.** What is a conjugate acid-base pair ? Write the conjugate acid and conjugate base of each of the following :

a) $OH^-$ b) $HCO_3^-$

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**5.** Explain the following with suitable examples

:

Electron deficient hydrides

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**6.** Explain the following with suitable examples

:

Ionic hydrides

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**7.** Explain the structure of diborane.

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**8.** What do yor understand by

Allotropy

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**9.** What do you understand by

Inert pair effect

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**10.** Describe any two methods of preparation of ethane with equations, give any three reactions of ethane.

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**11.** Write the reactions of Ethylene with the following :

(a) Ozone b) Cold, dilute alk, $KMnO_4$

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**12.** Write the reactions of Ethylene with the following :

(a) Ozone b) Cold, dilute alk, $KMnO_4$

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## Section C

**1.** What are the postulates of Bohr's model of hydrogen atom?

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**2.** State Hund's rule and Aufbau principle.

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**3.** Explain how the elements are classified into S. p .d and f- block elements in the periodic table and give the advantage of this kind of classification .

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**4.** Explain the hybridisation involved is $SF_6$.

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**5.** State Fajan's rules, and give suitable examples.

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