



CHEMISTRY

BOOKS - KUMAR PRAKASHAN KENDRA

CHEMISTRY (GUJRATI ENGLISH)

**SAMPLE QUESTION PAPER FOR FIRST
EXAM**

Section A

1. How many negative ions are directly attached to Na^+ ion in NaCl crystal?



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2. If spin quantum number S of an electron of an atom has three values $-1, 0, +1$. Then 19^K will be the element of which block of periodic table?

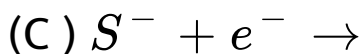
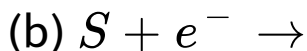
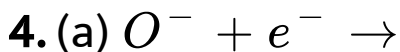


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3. What will be the value of spin multiplication for the valence shell electrons of 7^N .



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5. What is the shape of SF_4 molecule according to principle VSEPR?



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6. Arrange in increasing order to U_{av} , U_{mp} and U_{rms} .



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7. How many spectroscopic lines are obtained, when electron transited from quantum level $n=6$ to $n=2$ in hydrogen atom?



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8. Which one of the following is not thermodynamic intensive property?

(A) Retractions

(B) Surface tension

(C) Heat capacity





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9. Which alkali metal of group - I has lowest strength of reducing agent ?



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Section B

1. How much volume is needed to prepare 2.0 liters 0.5 M solution of methanol having density of $0.8 \text{ kg. } L^{-1}$?



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2. Explain two periodic characteristics in which one is increased and other is decreased as the atomic number is increased in the same group.



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3. Calculate the number of electrons in 1.4 gram $7^{N^{3-}}$ ion. (Atomic mass of N=14).



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4. Write the balanced equation for making of soda ash from washing soda and write two uses of soda ash.



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Section C

1.



How much molar HNO_3 solution is required to react 0.635 gm. Cu with 25ml HNO_3 ?

(Cu = 63.5 gm / mole)



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2. Calculate the wavelength of electron if its kinetic energy is 3.0×10^{-25} J. Mass of electron is 9.1×10^{-31} kg.

($h = 6.626 \times 10^{-34} JS$)



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3. Why the radius of positive ion is smaller than its parent ion and why the radius of negative ion is bigger than its parent ion ?

Explain with suitable example.



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4. Derived the formula of van-der-Waals by correcting the statement 'Real gas shows deviation from ideal gas'.

Write Charle's law by derived its mathematical form with explanation by graph.



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5. How much weight of slacked lime is used to produced 143 gram of bleaching powder.

(Reaction equation in necessary).

(Atomic mass Ca=40, O=16, =35.5 gm / mole)



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Section D

1. Write the following expressions as $\log N$ and find their values.

$$2 \log 3 - 3 \log 2$$



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2. Explain Hess's rule for integral heat and by using that , Explain lattice enthalpy of KCl by born Haber cycle. (The value of thermal changes are not required).



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