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**ROLL NO.………………**

**SHRI SHANKARACHARYA VIDYALAYA, BHILAI**

WEEKLY TEST EXAMINATION 2024-2025

**CLASS - XI**

**Time Allowed: 1 Hours SUBJECT - CHEMISTRY Maximum Marks:25**

1. Multiple Choice Questions with one correct answer. Each question carries 1 Mark.

 **i. Orbital angular momentum depends on**
 **a. l** **b. n and l** **c. n and m** **d. m and s**

 **ii. Total number of orbitals associated with third shell will be \_\_\_\_\_\_\_.**

**a. 2 b. 4 c. 9 d. 3**

 **iii. In which of the following pairs, the ions are isoelectronic?**

1. **Na+, Mg2+ b. Al3+, O- c. Na+, O2- d. N3-, Cl-**

 **iv. Which of the following properties of atom could be explained correctly by ₍₍Thomson Model of atom?
 a. Overall neutrality of atom.
 b. Spectra of hydrogen atom.
 c. Position of electrons, protons and neutrons in atom.
 d. Stability of atom.**

 **v. Which of the following statements about the electron is incorrect?
 a. It is a negatively charged particle.
 b. The mass of electron is equal to the mass of neutron.
 c. It is a basic constituent of all atoms.
 d. It is a constituent of cathode rays.**

 **vi. The pair of ions having same electronic configuration is :**

 **Atomic no. of Fe = 26 , Cr =24 , Mn=25 , Co=27**

1. **Cr3+, Fe3+ b. Fe3+, Mn2+  c. Fe3+, Co3+ d. Sc3+, Cr3+**

 **vii. Maximum number of electrons in a subshell of an atom is determined by:**

 **a.2l+1 b. 4l-2 c. 2n2  d. 4l+2**

 **viii. The total number of atomic orbitals in 4th energy level of an atom is :**

1. **4 b. 8 c. 16 d. 32**

**ix. If n=3 , l=0 , m=0 , then atomic no. is :**

 **a. 12,13 b. 13, 14 c. 10, 11 d. 11,12**

**x. Which series of lines of the hydrogen spectrum lie in the visible region?**

 **a. Balmer b. Lyman c. Pfund d. Brackett**

**2. If the velocity of the electron in Bohr’s 1st orbit is 2.19 \* 106ms-1, calculate the De 2 Broglie wavelength associated with it. [ mass of e- = 9.11 \* 10-31]**

**3. State Heisenberg’s Uncertainity Principle with its mathematical expression. 2**

**4. a. How many subshells are associated with n= 4? 2**

 **b. How many electrons will be present in the subshells having ms value of -1/2 and n=4.**

**5. Indicate the number of unpaired electrons in – i. P ii. Cr iii.Fe 3**

**6. State :- i. Pauli’s Exclusion Principle 3**

 **ii. Aufbau Principle**

**7. i. What are the atomic numbers of elements with outermost electrons – 3s1 &2p3**

 **ii. What is the difference between orbit and orbital ? 3**