Chemistry Class - 11: Chapter – 2. Structure of Atom – Part-3

Multiple Choice Questions

Questions 11:

Total number of orbitals associated with third shell will be _____.

(i)

(ii)

(iii)

(iv)

Answer: (iii)

Solution:

Questions 12:

Orbital angular momentum depends on _____.

(i)

(ii) $n$and$l$

(iii) $n$and$m$

(iv) $m$and$s$

Answer: (i)

Solution:

Questions 13:

Chlorine exists in two isotopic forms, $Cl-37$ and $Cl-35$ but its atomic mass is 35.5 . This indicates the ratio of $Cl-37$ and $Cl-35$ is approximately

(i) $1:2$

(ii) $1:1$

(iii) $1:3$

(iv) $3:1$

Answer: (iii)

Solution:

Questions 14:

The pair of ions having same electronic configuration is _____.

(i) Cr^{3+}, Fe^{3+}

(ii) Fe^{3+} , Mn2 +

(iii) Fe^{3+}, CO^{3+}

(iv) Sc^{3+}, Cr^{3+}

Answer: (ii)

Solution:

Questions 15:

For the electrons of oxygen atom, which of the following statements is correct?

(i) Z_{eff} for an electron in a $_{2s}$ orbital is the same as Z_{eff} for an electron in a $_{2p}$ orbital.

(ii) An electron in the 2*s* orbital has the same energy as an electron in the $_{2p}$ orbital.

(iii) Z_{eff} for an electron in $_{1s}$ orbital is the same as Z_{eff} for an electron in a 2*s* orbital.

(iv) The two electrons present in the $_{2s}$ orbital have spin quantum numbers $_{ms}$ but of opposite sign.

Answer: (iv)

Solution:

Questions 16:

If travelling at same speeds, which of the following matter waves have the shortest wavelength?

(i) Electron

(ii) Alpha particle (He2 +)

(iii) Neutron

(iv) Proton

Answer: (ii)

Solution: