

7. $[\text{Ar}]3d^{10}, 4s^1$ electronic configuration belongs to
 a) Ti b) Tl c) Cu d) V
8. The charge on an electron is 4.8×10^{-10} esu. What is the value of charge in Li^+ ion?
 a) 4.8×10^{-10} esu b) 9.6×10^{-10} esu c) 1.44×10^{-9} esu d) 2.4×10^{-10} esu
9. What is the ration of mass of an electron to the mass of a proton?
 a) 1:2 b) 1:1 c) 1:1837 d) 1:3
10. As the number of orbit increase from the nucleus, the difference between the adjacent energy levels:
 a) Increases b) Remains constant c) Decreases d) None of these
11. The potential energy of an electron present in the ground state of Li^{2+} ion is
 a) $+\frac{3e^2}{4\pi\epsilon_0 r}$ b) $-\frac{3e}{4\pi\epsilon_0 r}$ c) $-\frac{3e^2}{4\pi\epsilon_0 r}$ d) $-\frac{3e^2}{4\pi\epsilon_0 r^2}$
12. The orbital angular momentum of a p -electron is given as:
 a) $\frac{h}{\sqrt{2}\pi}$ b) $\sqrt{3}\frac{h}{2\pi}$ c) $\sqrt{\frac{3}{2}}\frac{h}{\pi}$ d) $\sqrt{6} \cdot \frac{h}{2\pi}$
13. Transition from $n = 2,3,4,5\dots$ to $n = 1$ is called
 a) Lyman series b) Paschen series c) Balmer series d) Bracket series
14. If the total energy of an electron in a hydrogen like atom in an excited state is -3.4 eV, then the de Broglie wavelength of the electron is:
 a) 6.6×10^{-10} b) 3×10^{-10} c) 5×10^{-9} d) 9.3×10^{-12}
15. Which d -orbital does not have four lobes?
 a) $d_{x^2-y^2}$ b) d_{xy} c) d_{z^2} d) d_{xz}
16. The nucleus of an atom contains
 a) Proton and electron b) Neutron and electron
 c) Proton and neutron d) Proton, neutron and electron
17. Total number of electrons present in acetylene molecule is:
 a) 14 b) 26 c) 18 d) 16
18. An ion which has 18 electrons in the outermost shell is:
 a) Cu^+ b) Th^{4+} c) Cs^+ d) K^+
19. The maximum number of electrons in a p -orbital with $n = 6$ and $m = 0$ can be:

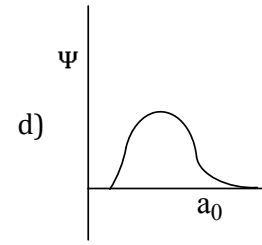
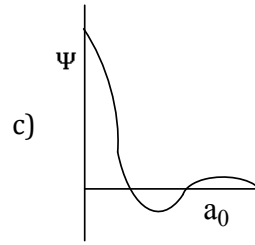
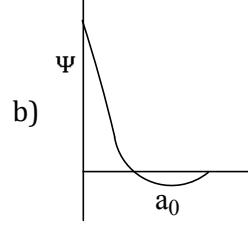
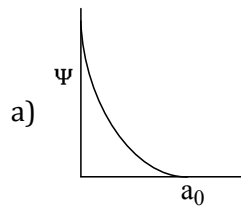
a) 2

b) 6

c) 10

d) 14

20. The graph representing node is



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