1.(C) The most important finding of Rutherford's experiment is discovery of nucleus.

2. $(1.66 \times 10^{-27} \text{kg})$

Mass of one H-atom $= \dfrac{10^{-3}}{6.023 \times 10^{23}} \text{kg} = 1.66 \times 10^{-27} \text{kg}$

3. (neutrons)

Isotopes have different number of neutrons.

4.(False) $Cr = 3d^5 4s^1$

5.(A) The negligibly small size of nucleus compared to the size of atom was first established in Rutherford's experiment.

6. (photons)

Photons have quantised energy.

7. (isobars)

Isobars have same mass number but different atomic numbers.

8. (Opposite)

Two electrons in same orbital must have opposite spin.

9.(True) Aufbau principle.

10.(False) This is the wavelength of infrared radiation

11.(A) The principal quantum number 'n' represents orbit number hence, determine the size of orbitals.

12.(D) According to Pauli exclusion principle, an atomic orbital can accommodate at the most, two electrons, with opposite spins.

13.(A) The principal quantum number (n) of an atom is related to the size and energy of the orbital.

14.(D) When electron jumps to lower orbit photons are emitted while photons are absorbed when electron jumps to higher orbit. 1s-orbital is the lower most, electron in this orbital can absorb photons but cannot emit.

15.(AC) Alpha particles passes mostly undeflected when sent through thin metal foil mainly, because

  (i)   it is much heavier than electrons.

  (ii)   most part of atom is empty space.