Physics - ICS Part 2 Physics Chapter 20 Short Questions Preparation

Q1. Give two uses of laser in medicine and industry.

Ans 1: Laser is used

1. For welding detached retinas
2. To destroy cancerous and precancerous cells.

Q2. What is CAT scanner?

Ans 1: A vastly improved x-rays technique is computerized axial tomography: the corresponding instrument is called CAT scanner.In CAT scanning a number of different orientations.Computer is attached to construct picture,Density difference of the order of one percent can be detected,Tumors and other anomalies much too small to be seen with older techniques can be detected.

Q3. Bohr's theory of hydrogen atom is based upon several assumptions.Do any of these assumptions contradict classical physics?

Ans 1: Bohr's first assumptions contradicts classical physics.Bohr said that electron do not radiate energy during revolving while according to classical physics,electron radiate energy during revolving and fall into the nucleus which is impossible.

Q4. What are the difference between laser light and ordinary light?

Ans 1: The laser light is intense ,unidirectional and phase coherent ,so it does bit spread as compared to ordinary light.
The energy of laser can be focused at a point to get enough heat for welding which is not possible with ordinary light.
A laser beam is used as a surgical tool for welding detached retina which ordinary light can not do.

Q5. What do we mean when we say that the atom is excited?

Ans 1: When energy from some external source is provide to an atom in its normal state,then its electron will jump from lower energy state to higher energy state.And atom is said to be excited.

Q6. Write two properties of x-rays.

Ans 1:

1. They cause ionization.
2. They have very short wavelength.

Q7. What is fluorescence?

Ans 1: Fluorescence is a property of absorbing radiant energy of high frequency and re emitting energy of low frequency in the visible region of electromagnetic spectrum.

Q8. Can x-rays be reflected,diffracted polarized just like any other eaves?Explain

Ans 1: Yes x rays can be reflected,refracted diffracted by crystal only and polarized just like any other waves.

Q9. Define characteristics of X-rays and continuous x-rays.

Ans 1: Chararcterstics X-rays: The x-rays emitted from inner shell transitions are called characteristics x-rays and their energy depends on the type of target material.
Continuous X-rays:The x-rays emitted having continuous range of frequencies due to bremsstrahlung effect are called continuous x rays.

Q10. Write two postulate of Bohr's model of H-atom.

Ans 1:

- An electron ,bound to the nucleus in an atom,can moved around the nucleus in certain circular orbits without radiating,These orbits are called the discrete stationary orbits.
- Only those stationary orbits are allowed for which orbital angular momentum is equal to an integral multiple $mvr=nh/2\pi$.
