

20.5 QUESTIONS FROM PAST PAPERS:

Year 2011:

Q.2(i) In How many ways γ - rays produce ionization of Atoms? Explain.

Ans. A γ - rays can produce ionization in following three ways.

- It may lose all its energy in a single encounter with the electron of an atom (Photoelectric effect)
- If may lose only a part of its energy in an encounter (Compton's effect).
- Very few of very high energy γ - ray photons may impinge (make impact) directly on heavy nuclei, be stopped and annihilated giving rise to electron - positron pairs (The materialization of energy).

Wilson Cloud Chamber:

Year 2012:

Q.2(vii) Explain why the photograph of the path of Alpha particle is thick and made up of continuous lines wherever that of Beta particles is thin and made up of broken lines in the Wilson Cloud Chamber.

Year 2013, 2010, 2008, 2006, 2003 (P.M, P.E) and 2001:

Q.5(a) Describe the principles construction and working of a Wilson Cloud Chamber.

OR

Give the construction and working of a Wilson Cloud Chamber with the diagram.

G.M Tube:

Year 2007, 2004, 2002 (P.E, P.M):

Q.8(b) Describe the construction and working of a Geiger Counter.

20.6 MULTIPLE CHOICE QUESTIONS OF PAPERS:

YEAR 2013:

(i) The rate of flow of blood is determined by:

- * ${}_{11}\text{Na}^{24}$ * ${}_6\text{C}^{14}$ * Cobalt - 60 * ${}_{53}\text{I}^{131}$

YEAR 2012:

(i) This narrow beam from cobalt-60 is used in treating localized cancerous tumour.

- * α -rays * β -rays * γ -rays * All of these

YEAR 2009:

(i) A Geiger-Muller counter contains:

- * Argon and Alcohol * Alcohol only
* Ions * Super-cooled water vapours

YEAR 2006:

(i) In treating localized cancerous tumour, we use a narrow beam of:

- * α -rays from cobalt 60 * β -rays from cobalt 60
* γ -rays from cobalt 60 * Laser from cobalt 60