

Q3 Submitted :- Form: ZAKIRU11A14

Q3 Submitted :- To : Mam. Atoofah

Q3 paper :- : Radiological  
Protection

Q3 10 :- : 10822

Q. 2 :->

## (a) Deterministic Effect :->

→ These effect depend on  
time of exposure, dose, &  
type of Radiation.

→ The Radiation exposure  
produced by high Radiation  
Dose.

## (b) Stochastic effect :->

→ These effect of Radiation  
exposure are low dose

delivered over a long period.  
→ Stochastic effect are  
Cancer & also genetic effect.



(3)

Q: 3 (A)

Two Basic Principle

of Radiation Protection  $\Rightarrow$

(i) Maximum Distance :-

$\rightarrow$  Maintained

The distance between

Source of Radiation and

exposure person.

$\Rightarrow$

~~The distance between~~

The distance between focal

Spot and patient least :- 38 cm

(ii) Use Shielding  $\Rightarrow$

$\Rightarrow$  Use Shielding material

( $P = T = 0$ )  $\Rightarrow$

(4)

Between The Radiation Source  
and The exposed person:

⊖ it Reduce the level  
of Radiation.

3 (B) ⇒ Name Radiation protection  
Devices ⇒

•• Lead gloves.

•• lead Apron.

•• Lead Grenad Shield.

•• lead Collar.

•• proper ~~mon~~ monitoring.



Q: 43-7

Feature of Radiationprotection Design  $\Rightarrow$ 

Q: The Design of x-ray

examination room.

It great attention to the

location of x-ray imaging

room.

Q: It is necessary to include

protective barriers.

 $\Rightarrow$  Sheet of lead is use

in the wall of x-ray

~~exam~~ examination room.

⇒ When the  $\alpha$ -form upper floor it is necessary to shield the floor as well.

Q.5. GM Counter :-  
(Geiger Counter)

This instrument is used for detecting and measuring ionizing radiation :-

⇒ used as a radiation protection :-

( $\rho = 1.0$ ) →



The protection of people from harmful radiation effects to exposure to ionizing radiation.

∴ ionizing radiation significant hazard by causing damage to live tissue.

→ use simple protective time

→ distance & shielding.

→ limited exposure time.

→ Distance from source of

Radiation.

→ in emergency exposure for external radiation personal dosimeters are used.

Q.2 :-

⇒ Radiation :-

The emission of energy as  
a electromagnetic waves

with high energy particle  
which cause ionization.

⇒ Radioactivity :-

The emission of ionizing

radiation caused by the

Spontaneous disintegration of

atomic nuclei.



(a)  
⇒ Non-ionizing Radiation :-

The type of electromagnetic radiation that does not carry enough energy to ionize atom or molecule - that is completely remove an electron from atom or molecule.

⇒ ionizing radiation :-

The type of electromagnetic radiation carry sufficient energy to remove electron from atom or a molecule.

## ⇒ Harmful Radiation:

The type of Radiation which are harmful for Body to damage cell, Skin and also damage internal organ.

→ Gamma ray is most harmful.

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