NAME MUHAMMAD DANISH

ID 14729

QUESTION 1

ANSWER:1

DETERMINISTIC EFFECT:

1:Deterministic effect are called non stochastic effect these effect depend on time of exposure,doses,type of Radiation . Occure at level of cells .

2:It has a threshold of dose below which effect does not occure the threshold may be vary from person to person

3:Deterministic effect are those responses which increase in severity with increased dose if the dose increase the severity of an effect increase

4:All early effect and most tissue late effect is deterministic.

5:Mechanism involve effect on many cells in these the of killing occure in all people when the dose is larger enough.

Stochastic effect:

1:Stochastic effect is those effect which occure when a person receives a high dose of radiation .Occure at level of tissue .

2:These effect have an increase probability of occurrence with increase dose .

3:There is no there should dose below which is creatively certain that a stochastic effect can not occure.

4:severity does not depend on magnitude of observe doses. These effect occure by chance usually without there should level of dose have no level of radiation dose effect arises from injury to one for a few cell.

5:Malignant disease and heritable effect for which the probability of effect occure .Occurrence of stochastic effect is probabilistic in nature and is proportional to dose receive.

QUESTION: 2

ANSWER:2

*RADIATION*

Energy that emitted from a source is referred as radiation. Radiation is energy that travels through space. It can be defined as energy released in form of particles. It is in the form of waves or moving subatomic particles and rays.

Ion izing Radiation

The Radiation which has a very high energy is called ionizing Radiation. It is dangerous and leaves bad impact on human body. Alpha, Beta ,x rays are some examples of ionizing radiation . It has high energy and displace electron from there orbit. Creating charge atom and create DNA damage, outright cell death. Ionizing radiation is radiation with enough energy so that during an interaction with an atom it can remove tightly bound electron from orbit. Causing the atom to become charged or ionized .

NON IONIZING radiation

The type of radiation is low energy Radiation no ion charge are produce in this radiation. UV rays ,Microwaves ,Radiofrequency waves are some example of non ionizing Radiation . These rays are not directly

 for survival . Non ionizing Radiation originates from various sources naturally originated or man made this radiation refer to any type of electromagnetic Radiation that does not carry enough energy per quantum to ionize atom or an atom or molecule. These are low energy radiation not enough energy to pull electron from orbit but can excite the electron.

Radioactivity

Some atom exist in abnormally excited state characterized by an un stable nucleus to reach stability the nucleus spontaneously emits particles and energy and transformed itself another atom this process is called radioactive disintegration or radioactive decay . Radioactivity is the spontaneous emission of particles and energy in order to become stable.

HARMFUL RADIATION

This is important to point out our patient many of whom remain wary of radiation one never reads a word radiation in a news paper and magazine without the modifier ‘’Dangerous’’ deadly or harmfully

QUESTION :3

TWO BASIC PRINCIPLES OF RADIATION PROTECTION

JUSTIFICATION OF PRACTICE

ANY practice involving exposure justifiable I e it produces more benefit to the exposed individual or society then harm.

Individual dose limit

The exposure of individual will be subjected to dose limit to ensure that no individual is exposed to radiation risks that are judged to be unacceptable .

NAMES OF THE RADIATION PROTECTION DEVICE

Radiation protection aprons

Radiation protection aprons accessories

Radiation protection gloves

Radiation protection glasses

Radiation protection thyroid shield

Radiation protection aprons racks

Radiation protection barriers and table shield

Radiation protection darpe shield

QUESTION :4

ANSWER

FEATURES OF RADIATION PROTECTION DESIGN

FACILITY DESIGN FEATURES

##### Specific design features for maintaining personnel exposure as low as responsibly achievable are presented in the subsection.

 Plant design features of ALARA

The equipment and plant design features in employed to maintain radiation exposure ALARA are based upon the design of consideration of subsection

Common equipment and component design of ALALRA

This subsection describes the design features utilized for several general classes of equipment or component .This classes of equipment are commen to many of the plants system thus the features employed for each system to maintain minimum exposure .

REACTOR VESSEL

The reactor vessels design include and integrated head package which combine the head lifting ring control and gray road drive mechanism lift coloum reactor missle shield control road drive mechanism cooling system and power and instrumentation cabling in to an effective one package reactor vessels head design .

QUESTION :5

ANSWER

GEIGER MULLER COUNTER

A Geiger muller counter is a gas filled detector design for maximum gas amplification effect The center wire anode in maintain at high positive voltage relative to the outer cylindrical electrode ,cathode the outer electrode may be metal cylinder or a metallic film sprayed on the inside of glass or plastic tube some GM counter have a thin radiation entrance window at one end of the tube the cylinder of the tube is sealed and filled with a special gas miuxture typically argon plus a quenching gas .

When ionization GM counter electrons are accelerated toword the center wire gas amplification occure in GM counter as in a proportional counter in a addition to ionizing gas molecule the accelerating electron also can cause excitation of gas molecule through collision these excited gas molecule quickly return to the ground state through emission of protons at visible of ultra violet wave length .

A Geiger counter is an instrument use for the detecting and measuring and ionizing radiation it detects ionizing radiation such as Alpha particles ,beta particles and gamma rays using the ionizing effect produce in a gieger muller tube which give its name to the instrument in wide prominent used as hand held radiation survey instrument it is perhaps one of the world best known radiation detection instrument