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Viva : Radiation Protection

Question : 1

Answer

Role of radiation Protection
offices in radiology
department :

A Radiation Protection officer is a specialist in radiation safety and compliance matters and is an appointed position.

The role of radiation Protection
offices to support the
university work within

ionising radiations by ensuring arrangements are in place to manage radiation risks, so that work is carried out safely and in compliance with Regulations and so that university employees and the public are protected from harmful effects.

The role involves

1. Acting as the point of contact within the radiology department for the external Radiation Protection Adviser.
2. Preparing periodic status reports to radiation

safety and management. 3

3. Manage the collation of waste records and make pollution inventory returns to EA on behalf.

4. Monitoring site activity against Environmental Agency permit conditions; including

- expect inspection and auditing of storage and disposal facilities.

- Auditing holdings and usage records.

- Auditing waste accumulation in stores.

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5. Arranging for disposal of radioactive waste to authorised contractors.

6. Managing facility or site decommissioning.

7. Managing an inventory of equipment capable of emitting X-rays.

8. Advising on training in radiation safety.

9. Managing a system for provision of personal dosimetry and associated record-keeping.

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Question: 2

Answer

The radiation protection measures in a state radiology department

Radiology uses techniques such as X-ray imaging to detect and diagnosis disease and Inquiries manage patient care and guide many forms of medical treatment because X-rays involve ionizing radiation that can deposit energy in human cells and cause tissues changes it is important

to minimize any associated risk to the patient this is done by limiting the radiation exposure to the minimum required to create the clinical images needed to answer the medical question.

There is a safety plan that indicates the periodic inspection, maintenance, and calibration of all equipment.

The safety plan involves posting of safety warnings on the doors.

The safety plan indicates monitoring of the staff

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for radiation exposure,
at least quarterly.

Question-3

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Answer

Radiation Hazards

- Radiation injury causes changes in the living tissues causing radiation sickness.
- Somatic effects - harmful to the person.
- Genetic effects - reflected in the offspring.

Exposure to very high levels of radiation, such as being close to an atomic blast, can cause acute

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health effects such as skin
burns and acute radiation
syndrome. It can also
result in long-term health
effects such as cancer
and cardiovascular
disease.

• Ionizing radiation can
damage living tissue
in human body. It
strips away electrons
from atoms breaks
some chemical bonds.

Beware off on Radiation
Hazards :

Uses time, Distance and
shieeling to protect

yourself .

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putting distance and shielding between you and radiation source is an immediately effective way of reducing your exposure .

Reducing the time you are being exposed in another way use a respirator or face mask if you are exposed to airborne sources .

Question - 4

Answer.

Radiation technologist protection : ¹¹

During these imaging procedure radiologic technicians leave the room or stand behind a protective shield, such as curtain that is designed to keep out radiation.

Technologist also wear shielding devices such as lead gloves and masks for radiation protection.

Three basic principles of radiation technologist protection.

Time: The total dose received by a radiation worker is directly proportional to total time spent near the radiation source.

Distance: Increasing distance b/w the individual and the source of radiation is an effective method.

Shielding: when maximum distance and minimum time do not ensure an acceptably low-radiation dose adequate shielding must be provided.

Radiation occupational dose :

Standards for protection against radiation. The limit dose for radiation workers. The limit very depending on affected part of the body. The annual total 5000 m Sv.

