

NAME SUNDAS

ID 16608

Bs RADIOLOGY 4TH SEMESTER

PAPER RADIATION PROTECTION

Question No. 1

ROLE OF RADIATION PROTECTION OFFICER

IN RADIOLOGY DEPARTMENT:-

Role of radiation Protection Officer in radiology department are.

1. Radiation protection office play role with radiation safety including work patients and also ensuring the appropriate condition of the equipment used.
2. RPO develop radiation protection plans in particular for nuclear plants and facilities.
3. RPO's have common core information on protection and safety as related to their field of practice.
4. RPO's also have knowledge about applicable regulation.

5. RPO's also responsible for operation involving radioactive waste management in facility.
6. Radiation protection officers also play role for the protection from harmful effect caused by exposure to ionizing radiation.
7. The role of RPO is to support the university's work with ionizing radiations by ensuring arrangements are in place of manage radiation risks so work carried out safely.
8. The RPO performing measurements to check radiation doses, dose rates and activity.
9. The role of ROP's managing a system for the provision of personal dosimetry and associated record-keeping.
10. ROP's managing an inventory of equipment capable of emitting X-rays.

Question No. 2

RADIATION PROTECTION MEASURE IN SAFE RADIOLOGY DEPARTMENT:-

Radiation protection measure in Safe radiology department. There is a safety plan that indicates the periodic inspection, maintenance, and calibration of all equipments.

Safety plan involves the management of radioactive materials used for therapeutic and diagnostic purposes, regard to handling, storing and transportation.

In safety plan involves checking female patients for pregnancy before exposure.

The safety plan indicates monitoring of the staff for radiation exposure at least quarterly.

In safety plan involves the provision and regular testing of radiation protection aprons and thyroid and gonad shield for staff and patients.

Records are available indicating the radiation dosimetry tools and

staff radiation exposure for the past months.

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

The Safety plan is implemented and evidenced by the daily process practice.

Question No. 3

RADIATION HAZARD:-

Exposure to very high levels of radiation such as being close to an atomic blast can cause acute health effects such as skin burns and acute radiation. It can also result in long-term health effects such as cancer and Cardiovascular disease.

ionizing radiation can damage living tissue in the human body.

It strips away electrons from atoms breaks some chemical bonds. Spontaneous decay of radioactive materials produces radiation.

Radiation may be ionizing and

- Alpha beta gamma and x-rays particle are the most common forms of ionizing radiations.
- X-ray machines and Radioisotopes are the two important and potential sources of ionizing radiation.

ALPHA (α):-

- once it gets in it is highly damaging to body tissue.
- Can't pass through skin but could be inhaled or ingested. Considered less damaging than gamma rays or alpha particle.

BETA (β):-

- It is much less damaging to body tissue than alpha.
- Used as medical tracers.

GAMMA (γ):-

- Gamma can be dangerous form of radiation.
- They are very penetrating.

Needs intense or prolonged radiation to cause damage to cells.

- * The most ~~pressing~~ current problem in pediatric radiology is the reduction of hazard to the patient from exposure to ionizing radiation.

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Question No. 4

RADIATION TECHNOLOGIST CAN PROTECT HIMSELF/HERSELF FROM RADIATION:-

- Radiation Technologist can protect himself/herself from radiation.
- Radiology technologist in x-ray room have barrier walls and windows that kept the the exposure inside the room. During imaging procedures radiologic technicians leave the room or stand behind a protective shield such as lead curtain that is designed to keep out radiation.
- Technicians should also wear shielding devices such as lead aprons, gloves, goggles and

masks for radiation protection whenever necessary.

- Minimize Exposure: To minimize your exposure at all possible time.

- DISTANCE:

The dose radiation decreases dramatically as you increase your distance from the source.

- SHIELDING:

Barriers of lead, concrete, or water provide protection from penetrating gamma rays and x-rays.

- Minimize the time and you will minimize the dose.

- The lead shield material in the gloves and aprons reduces the dose of scatter radiation.

- When a radiologic technologist becomes pregnant, she should notify her supervisor.

- The DL for fetus is 5mSv for period of pregnancy.

- The pregnant radiologic technologist should be provided with a second personnel monitoring.

device.

OCCUPATIONAL DOSE

The dose limit to non-occupational workers and members of the public are set at two percent of annual occupational dose. The annual total for the whole body is 5000 rads.
