

Date: _____

Name #

Hajira

Bibi

I.D #

15304

Paper =

General

Radiology

Date =

24/8/2020

Q 1 :- Differentiate between Calcium Tungstate Screens and Rare Earth Screen?

Ans

Calcium Tungstate Screens

Rare Earth Screen

- The speed of these screen depends upon
 - (1) the thickness of the phosphor layer
 - (2) The size of the phosphor crystals.
 - (3) The presence or absence of light-absorbing dyes within the screen.
 - (4) The conversion efficiency of the crystal

Rare Earth Screen.

- Rare earth phosphors are more efficient in converting x-ray energy to light.
- Rare earth phosphors need less x-ray energy to provide the same conversion as Calcium Tungstate.
- Rare earth phosphors have an x-ray to light conversion 18-25% which four five times greater than that of Calcium Tungstate.
- Film and Screen Types should be matched to provide maximum speed efficiency.

Q2: Explain the latent image formation.

Ans latent image formation:

⇒ A latent image is an invisible image of a photosensitive material such as photographic films produced by exposure to light.

⇒ When a photographic film is developed, the area that was exposed darkens and forms a visible image.

⇒ The nature of the invisible change in the silver halide crystals of the film emulsion coating was unknown, so the image was said to be "latent" until the film was treated with photographic developer.

⇒ A latent image is a small cluster of metallic silver atoms formed in or on silver ions by photoelectron.

Such as photolytic silver grows to a visible size called printing out the image.

⇒ On the other hand the formation of visible image by the action of photographic developer is called developing out the image.

Date: / / 20

Q3# Briefly describe the construction of Radiographic film with diagram.

Ans # **Construction of Radiographic film.**

⇒ Radiographic films has two parts. the base and the emulsion. most x-ray film the emulsion is coated on both sides. Called double emulsion film. between the base and emulsion

⇒ Base = the base is the foundation of Radiographic film.

⇒ The base of radiographic film is 150 to 250 μm thick, semirigid, lucent and made of Polyester.

Emulsion:

The emulsion is the heart of the radiographic film; the emulsion consist of consist of a homogeneous mixture of gelatin and silver halide crystals.

⇒ it coated with a layer that is 3 to 5 μm thick.

